## Sequence Listing

```
<110> Baker, Kevin P.
       Botstein, David
       Desnoyers, Luc
       Eaton, Dan L.
       Ferrara, Napoleone
       Fong, Sherman
       Gao, Wei-Qiang
       Goddard, Audrey
Godowski, Paul J.
Grimaldi, Christopher J.
       Gurney, Austin L. Hillan, Kenneth J.
       Pan, James
       Paoni, Nicholas F.
       Roy, Margaret Ann
       Smith, Victoria
       Stewart, Timothy A.
       Tumas, Daniel
       Watanabe, Colin K. Williams, P. Mickey
       Wood, William I.
```

- <120> Secreted and Transmembrane Polypeptides and Nucleic Acids Encoding the Same
- <130> P2830P1C4
- <150> 09/946374
- <151> 2001-09-04
- <150> 60/098716
- <151> 1998-09-01
- <150> 60/098723
- <151> 1998-09-01
- <150> 60/098749
- <151> 1998-09-01
- <150> 60/098750 <151> 1998-09-01
- <150> 60/098803 <151> 1998-09-02
- <150> 60/098821
- <151> 1998-09-02
- <150> 60/098843 <151> 1998-09-02
- <150> 60/099536 <151> 1998-09-09
- <150> 60/099596
- <151> 1998-09-09

<150> 60/099598 <151> 1998-09-09 <150> 60/099602 <151> 1998-09-09 <150> 60/099642 <151> 1998-09-09 <150> 60/099741 <151> 1998-09-10 <150> 60/099754 <151> 1998-09-10 <150> 60/099763 <151> 1998-09-10 <150> 60/099792 <151> 1998-09-10 <150> 60/099808 <151> 1998-09-10 <150> 60/099812 <151> 1998-09-10 <150> 60/099815 <151> 1998-09-10 <150> 60/099816 <151> 1998-09-10 <150> 60/100385 <151> 1998-09-15 <150> 60/100388 <151> 1998-09-15 <150> 60/100390 <151> 1998-09-15 <150> 60/100584 <151> 1998-09-16 <150> 60/100627 <151> 1998-09-16 <150> 60/100661 <151> 1998-09-16 <150> 60/100662 <151> 1998-09-16 <150> 60/100664 <151> 1998-09-16

<150> 60/100683

<151>	1998-09-17
<150>	· 60/100684
<151>	· 1998-09-17
<150>	60/100710
<151>	1998-09-17
<150>	60/100711
<151>	1998-09 <b>-</b> 17
<150>	60/100848
<151>	1998-09-18
<150>	60/100849
<151>	1998-09-18
<150>	60/100919
<151>	1998-09-17
<150>	60/100930
<151>	1998-09-17
<150>	60/101014
<151>	1998-09-18
<150>	60/101068
<151>	1998-09-18
<150>	60/101071
<151>	1998-09-18
<150>	60/101279
<151>	1998-09-22
<150>	60/101471
<151>	1998-09-23
	60/101472 1998-09-23
	60/101474 1998-09 <b>-</b> 23
	60/101475 1998-09-23
	60/101476 1998-09-23
<150>	60/101477
<151>	1998-09-23
	60/101479 1998-09-23
	60/101738 1998-09-24

<150> 60/101741 <151> 1998-09-24 <150> 60/101743 <151> 1998-09-24 <150> 60/101915 <151> 1998-09-24 <150> 60/101916 <151> 1998-09-24 <150> 60/102207 <151> 1998-09-29 <150> 60/102240 <151> 1998-09-29 <150> 60/102307 <151> 1998-09-29 <150> 60/102330 <151> 1998-09-29 <150> 60/102331 <151> 1998-09-29 <150> 60/102484 <151> 1998-09-30 <150> 60/102487 <151> 1998-09-30 <150> 60/102570 <151> 1998-09-30 <150> 60/102571 <151> 1998-09-30 <150> 60/102684 <151> 1998-10-01 <150> 60/102687 <151> 1998-10-01 <150> 60/102965 <151> 1998-10-02 <150> 60/103258 <151> 1998-10-06 <150> 60/103314 <151> 1998-10-07 <150> 60/103315

<151> 1998-10-07

<150> 60/103328

- <151> 1998-10-07
- <150> 60/103395
- <151> 1998-10-07
- <150> 60/103396
- <151> 1998-10-07
- <150> 60/103401
- <151> 1998-10-07
- <150> 60/103449
- <151> 1998-10-06
- <150> 60/103633
- <151> 1998-10-08
- <150> 60/103678
- <151> 1998-10-08
- <150> 60/103679
- <151> 1998-10-08
- <150> 60/103711
- <151> 1998-10-08
- <150> 60/104257
- <151> 1998-10-14
- <150> 60/104987
- <151> 1998-10-20
- <150> 60/105000
- <151> 1998-10-20
- <150> 60/105002
- <151> 1998-10-20
- <150> 60/105104 <151> 1998-10-21
- <150> 60/105169
- <151> 1998-10-22
- <150> 60/105266
- <151> 1998-10-22
- <150> 60/105693
- <151> 1998-10-26
- <150> 60/105694
- <151> 1998-10-26
- <150> 60/105807
- <151> 1998-10-27
- <150> 60/105881 <151> 1998-10-27

<150> 60/105882 <151> 1998-10-27 <150> 60/106023 <151> 1998-10-28 <150> 60/106029 <151> 1998-10-28 <150> 60/106030 <151> 1998-10-28 <150> 60/106032 <151> 1998-10-28 <150> 60/106033 <151> 1998-10-28 <150> 60/106062 <151> 1998-10-27 <150> 60/106178 <151> 1998-10-28 <150> 60/106248 <151> 1998-10-29 <150> 60/106384 <151> 1998-10-29 <150> 60/108500 <151> 1998-10-29 <150> 60/106464 <151> 1998-10-30 <150> 60/106856 <151> 1998-11-03 <150> 60/106902 <151> 1998-11-03 <150> 60/106905 <151> 1998-11-03 <150> 60/106919 <151> 1998-11-03 <150> 60/106932 <151> 1998-11-03 <150> 60/106934 <151> 1998-11-03 <150> 60/107783 <151> 1998-11-10

<150> 60/108775

<151> 1998-11-17 <150> 60/108779 <151> 1998-11-17 <150> 60/108787 <151> 1998-11-17 <150> 60/108788 <151> 1998-11-17 <150> 60/108801 <151> 1998-11-17 <150> 60/108802 <151> 1998-11-17 <150> 60/108806 <151> 1998-11-17 <150> 60/108807 <151> 1998-11-17 <150> 60/108848 <151> 1998-11**-**18 <150> 60/108849 <151> 1998-11-18 <150> 60/108850 <151> 1998-11-18 <150> 60/108851 <151> 1998-11-18 <150> 60/108852 <151> 1998-11-18 <150> 60/108858 <151> 1998-11-18 <150> 60/108867 <151> 1998-11-17 <150> 60/108904 <151> 1998-11-18 <150> 60/108925 <151> 1998-11-17 <150> 60/113296 <151> 1998-12-22 <150> 60/114223 <151> 1998-12-30

<150> 60/129674 <151> 1999-04-16

- <150> 60/141037
- <151> 1999-06-23
- <150> 60/144758
- <151> 1999-07-20
- <150> 60/145698
- <151> 1999-07-26
- <150> 60/162506
- <151> 1999-10-29
- <150> 09/218517
- <151> 1998-12-22
- <150> 09/284291
- <151> 1999-04-12
- <150> 09/403297
- <151> 1999-10-18
- <150> 09/872035
- <151> 2001-06-01
- <150> 09/882636
- <151> 2001-06-14
- <150> PCT/US99/00106
- <151> 1999-01-05
- <150> PCT/US99/20111
- <151> 1999-09-01
- <150> PCT/US99/21194
- <151> 1999-09-15
- <150> PCT/US99/28313
- <151> 1999-11-30
- <150> PCT/US99/28551
- <151> 1999-12-02
- <150> PCT/US99/30095
- <151> 1999-12-16
- <150> PCT/US00/00219
- <151> 2000-01-05
- <150> PCT/US00/00376
- <151> 2000-01-06
- <150> PCT/US00/03565
- <151> 2000-02-11
- <150> PCT/US00/04342
- <151> 2000-02-18
- <150> PCT/US00/05004

- <151> 2000-02-24
- <150> PCT/US00/05841
- <151> 2000-03-02
- <150> PCT/US00/06884
- <151> 2000-03-15
- <150> PCT/US00/13705
- <151> 2000-05-17
- <150> PCT/US00/14042
  - <151> 2000-05-22
  - <150> PCT/US00/14941
  - <151> 2000-05-30
  - <150> PCT/US00/15264
  - <151> 2000-06-02
  - <150> PCT/US00/23328
  - <151> 2000-08-24
  - <150> PCT/US00/23522
  - <151> 2000-08-23
  - <150> PCT/US00/30873
  - <151> 2000-11-10
  - <150> PCT/US00/30952
  - <151> 2000-11-08
  - <150> PCT/US00/32678
  - <151> 2000-12-01
  - <150> PCT/US01/06520
  - <151> 2001-02-28
  - <150> PCT/US01/06666
  - <151> 2001-03-01
  - <150> PCT/US01/17800
  - <151> 2001-06-01
  - <150> PCT/US01/19692
  - <151> 2001-06-20
- <150> PCT/US01/21066
- <151> 2001-06-29
- <150> PCT/US01/21735
- <151> 2001-07-09
- <160> 477
- <210> 1
- <211> 43
- <212> DNA

```
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-43
<223> Sequence - Artificial
 tgtaaaacga cggccagtta aatagacctg caattattaa tct 43
<210> 2
<211> 41
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-41
<223> Sequence - Artificial
<400> 2
caggaaacag ctatgaccac ctgcacacct gcaaatccat t 41
<210> 3
<211> 1110
<212> DNA
<213> Homo sapiens
<400> 3
ccaatcgccc ggtgcggtgg tgcagggtct cgggctagtc atggcgtccc 50
cgtctcggag actgcagact aaaccagtca ttacttgttt caagagcgtt 100
ctgctaatct acacttttat tttctggatc actggcgtta tccttcttgc 150
agttggcatt tggggcaagg tgagcctgga gaattacttt tctcttttaa 200
atgagaaggc caccaatgtc cccttcgtgc tcattgctac tggtaccgtc 250
attattcttt tgggcacctt tggttgtttt gctacctgcc gagcttctgc 300
atggatgcta aaactgtatg caatgtttct gactctcgtt tttttggtcg 350
aactggtcgc tgccatcgta ggatttgttt tcagacatga gattaagaac 400
agctttaaga ataattatga gaaggctttg aagcagtata actctacagg 450
agattataga agccatgcag tagacaagat ccaaaatacg ttgcattgtt 500
gtggtgtcac cgattataga gattggacag atactaatta ttactcagaa 550
aaaggatttc ctaagagttg ctgtaaactt gaagattgta ctccacagag 600
agatgcagac aaagtaaaca atgaaggttg ttttataaag gtgatgacca 650
ttatagagtc agaaatggga gtcgttgcag gaatttcctt tggagttgct 700
tgcttccaac tgattggaat ctttctcgcc tactgccwct ctcgtgccat 750
```

```
aacaaataac cagtatgaga tagtgtaacc caatgtatct gtgggcctat 800
 tcctctctac ctttaaggac atttagggtc ccccctgtga attagaaagt 850
 tgcttggctg gagaactgac aacactactt actgatagac caaaaaacta 900
 caccagtagg ttgattcaat caagatgtat gtagacctaa aactacacca 950
 ataggctgat tcaatcaaga tccgtgctcg cagtgggctg attcaatcaa 1000
 gatgtatgtt tgctatgttc taagtccacc ttctatccca ttcatgttag 1050
 atcgttgaaa ccctgtatcc ctctgaaaca ctggaagagc tagtaaattg 1100
 taaatgaagt 1110
<210> 4
<211> 245
<212> PRT
<213> Homo sapiens
<220>
<221> sig_peptide
<222> 1-42
<223> Signal Peptide
<220>
<221> TRANSMEM
<222> 19-42, 61-83, 92-114, 209-230
<223> Transmembrane Domains
<220>
<221> misc feature
<222> 69-80, 211-222
<223> Prokaryotic Membrane Lipoprotein Lipid Attachment Site.
<220>
<221> misc feature
<222> 75-81, 78-84, 210-216, 214-220, 226-232
<223> N-Myristoylation Site.
<220>
<221> misc feature
<222> 134-138
<223> N-Glycosylation Site.
<220>
<221> misc feature
\langle 222 \rangle 160-168, 160-169
<223> Tyrosine Kinase Phosphorylation Site.
<220>
<221> unsure
<222> 233
<223> unknown amino acid
<400> 4
```

Met Ala Ser Pro Ser Arg Arg Leu Gln Thr Lys Pro Val Ile Thr

1				5					10					15
Cys	Phe	Lys	Ser	Val 20	Leu	Leu	Ile	Tyr	Thr 25	Phe	Ile	Phe	Trp	Ile 30
Thr	Gly	Val	Ile	Leu 35	Leu	Ala	Val	Gly	Ile 40	Trp	Gly	Lys	Val	Ser 45
Leu	Glu	Asn	Tyr	Phe 50	Ser	Leu	Leu	Asn	Glu 55	Lys	Ala	Thr	Asn	Val 60
Pro	Phe	Val	Leu	Ile 65	Ala	Thr	Gly	Thr	Val 70	Ile	Ile	Leu	Leu	Gly 75
Thr	Phe	Gly	Cys	Phe 80	Ala	Thr	Cys	Arg	Ala 85	Ser	Ala	Trp	Met	Leu 90
Lys	Leu	Tyr	Ala	Met 95	Phe	Leu	Thr	Leu	Val 100	Phe	Leu	Val	Glu	Leu 105
Val	Ala	Ala	Ile	Val 110	Gly	Phe	Val	Phe	Arg 115	His	Glu	Ile	Lys	Asn 120
Ser	Phe	Lys	Asn	Asn 125	Tyr	Glu	Lys	Ala	Leu 130	Lys	Gln	Tyr	Asn	Ser 135
Thr	Gly	Asp	Tyr	Arg 140	Ser	His	Ala	Val	Asp 145	Lys	Ile	Gln	Asn	Thr 150
Leu	His	Суѕ	Суз	Gly 155	Val	Thr	Asp	Tyr	Arg 160	Asp	Trp	Thr	Asp	Thr 165
Asn	Tyr	Tyr	Ser	Glu 170	Lys	Gly	Phe	Pro	Lys 175	Ser	Cys	Cys	Lys	Leu 180
Glu	Asp	Cys	Thr	Pro 185	Gln	Arg	Asp	Ala	Asp 190	Lys	Val	Asn	Asn	Glu 195
Gly	Cys	Phe	Ile	Lys 200	Val	Met	Thr	Ile	Ile 205	Glu	Ser	Glu	Met	Gly 210
Val	Val	Ala	Gly	Ile 215	Ser	Phe	Gly	Val	Ala 220	Cys	Phe	Gln	Leu	Ile 225
Gly	Ile	Phe	Leu	Ala 230	Tyr	Cys	Xaa	Ser	Arg 235	Ala	Ile	Thr	Asn	Asn 240
Gln	Tyr	Glu	Ile	Val 245										
210> 5 211> 1218 212> DNA 213> Homo sapiens														

cccacgcgtc cggcgccgtg gcctcgcgtc catctttgcc gttctctcgg 50

```
acctgtcaca aaggagtcgc gccgccgccg ccgcccctc cctccggtgg 100
gcccgggagg tagagaaagt cagtgccaca gcccgaccgc gctgctctga 150
gccctgggca cgcggaacgg gagggagtct gagggttggg gacgtctgtg 200
agggaggga acagccgctc gagcctgggg cgggcggacc ggactggggc 250
cggggtaggc tctggaaagg gcccgggaga gaggtggcgt tggtcagaac 300
ctgagaaaca gccgagaggt tttccaccga ggcccgcgct tgagggatct 350
gaagaggttc ctagaagagg gtgttccctc tttcgggggt cctcaccaga 400
agaggttett gggggtegee ettetgagga ggetgegget aacagggeee 450
agaactgcca ttggatgtcc agaatcccct gtagttgata atgttgggaa 500
taagetetge aactttettt ggeatteagt tgttaaaaac aaataggatg 550
caaattcctc aactccaggt tatgaaaaca gtacttggaa aactgaaaac 600
tacctaaatg atcgtctttg gttgggccgt gttcttagcg agcagaagcc 650
ttggccaggg tctgttgttg actctcgaag agcacatagc ccacttccta 700
gggactggag gtgccgctac taccatgggt aattcctgta tctgccgaga 750
tgacagtgga acagatgaca gtgttgacac ccaacagcaa caggccgaga 800
acagtgcagt acccactgct gacacaagga gccaaccacg ggaccctgtt 850
cggccaccaa ggaggggccg aggacctcat gagccaagga gaaagaaaca 900
aaatgtggat gggctagtgt tggacacact ggcagtaata cggactcttg 950
tagataagta agtatctgac tcacggtcac ctccagtgga atgaaaagtg 1000
ttctgcccgg aaccatgact ttaggactcc ttcagttcct ttaggacata 1050
ctcgccaage cttgtgctca cagggcaaag gagaatattt taatgctccg 1100
ctgatggcag agtaaatgat aagatttgat gtttttgctt gctgtcatct 1150
actttgtctg gaaatgtcta aatgtttctg tagcagaaaa cacgataaag 1200
ctatgatctt tattagag 1218
```

```
<210> 6
```

<sup>&</sup>lt;211> 117

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;220>

<sup>&</sup>lt;221> sig\_peptide

<sup>&</sup>lt;222> 1-16

<sup>&</sup>lt;223> Signal Peptide

```
<220>
<221> misc_feature
<222> 18-24, 32-38, 34-40, 35-41, 51-57
<223> N-Myristoylation Site.
<220>
<221> misc feature
<222> 22-26, 50-54, 113-117
<223> Casein Kinase II Phosphorylation Site.
<400> 6
 Met Ile Val Phe Gly Trp Ala Val Phe Leu Ala Ser Arg Ser Leu
 Gly Gln Gly Leu Leu Thr Leu Glu Glu His Ile Ala His Phe
 Leu Gly Thr Gly Gly Ala Ala Thr Thr Met Gly Asn Ser Cys Ile
                  35
 Cys Arg Asp Asp Ser Gly Thr Asp Asp Ser Val Asp Thr Gln Gln
 Gln Gln Ala Glu Asn Ser Ala Val Pro Thr Ala Asp Thr Arg Ser
                  65
 Gln Pro Arg Asp Pro Val Arg Pro Pro Arg Arg Gly Arg Gly Pro
 His Glu Pro Arg Arg Lys Lys Gln Asn Val Asp Gly Leu Val Leu
Asp Thr Leu Ala Val Ile Arg Thr Leu Val Asp Lys
                 110
<210> 7
<211> 756
<212> DNA
<213> Homo sapiens
<400> 7
ggcacgaggc gctgtccacc cgggggcgtg ggagtgaggt accagattca 50
gcccatttgg ccccgacgcc tctgttctcg gaatccgggt gctgcggatt 100
gaggtcccgg ttcctaacgg actgcaagat ggaggaaggc gggaacctag 150
gaggcctgat taagatggtc catctactgg tcttgtcagg tgcctggggc 200
atgcaaatgt gggtgacctt cgtctcaggc ttcctgcttt tccgaagcct 250
teccegacat acetteggae tagtgeagag caaactette ceettetact 300
tccacatctc catgggctgt gccttcatca acctctgcat cttggcttca 350
```

cagcatgett gggeteaget cacattetgg gaggeeagee agetttacet 400

gctgttcctg agccttacgc tggccactgt caacgcccgc tggctggaac 450

```
cccgcaccac agctgccatg tgggccctgc aaaccgtgga gaaggagcga 500
 ggcctgggtg gggaggtacc aggcagccac cagggtcccg atccctaccg 550
 ccagctgcga gagaaggacc ccaagtacag tgctctccgc cagaatttct 600
 tccgctacca tgggctgtcc tctctttgca atctgggctg cgtcctgagc 650
 aatgggctct gtctcgctgg ccttgccctg gaaataagga gcctctagca 700
 tgggccctgc atgctaataa atgcttcttc agaaatgaaa aaaaaaaaa 750
 aaaaaa 756
<210> 8
<211> 189
<212> PRT
<213> Homo sapiens
<220>
<221> sig_peptide
<222> 1-24
<223> Signal Peptide
<220>
<221> misc_feature
<222> 4-10, 5-11, 47-53, 170-176, 176-182
<223> N-Myristoylation Site.
<220>
<221> misc_feature
<222> 44-8\overline{5}
<223> G-protein Coupled Receptors Proteins.
<220>
<221> misc feature
<222> 54-65
<223> Prokaryotic Mmembrane Lipoprotein Lipid Attachment Site.
<220>
<221> misc_feature
<222> 82-86
<223> Casein Kinase II Phosphorylation Site.
<220>
<221> TRANSMEM
<222> 86-103, 60-75
<223> Transmembrane Domain
<220>
<221> misc feature
<222> 144-151
<223> Tyrosine Kinase Phosphorylation Site.
<400> 8
Met Glu Gly Gly Asn Leu Gly Gly Leu Ile Lys Met Val His
  1
```

```
Leu Leu Val Leu Ser Gly Ala Trp Gly Met Gln Met Trp Val Thr
Phe Val Ser Gly Phe Leu Leu Phe Arg Ser Leu Pro Arg His Thr
                                     40
Phe Gly Leu Val Gln Ser Lys Leu Phe Pro Phe Tyr Phe His Ile
Ser Met Gly Cys Ala Phe Ile Asn Leu Cys Ile Leu Ala Ser Gln
                                     70
His Ala Trp Ala Gln Leu Thr Phe Trp Glu Ala Ser Gln Leu Tyr
Leu Leu Phe Leu Ser Leu Thr Leu Ala Thr Val Asn Ala Arg Trp
                 95
                                    100
Leu Glu Pro Arg Thr Thr Ala Ala Met Trp Ala Leu Gln Thr Val
                                    115
Glu Lys Glu Arg Gly Leu Gly Glu Val Pro Gly Ser His Gln
                                    130
Gly Pro Asp Pro Tyr Arg Gln Leu Arg Glu Lys Asp Pro Lys Tyr
Ser Ala Leu Arg Gln Asn Phe Phe Arg Tyr His Gly Leu Ser Ser
Leu Cys Asn Leu Gly Cys Val Leu Ser Asn Gly Leu Cys Leu Ala
Gly Leu Ala Leu Glu Ile Arg Ser Leu
```

<210> 9

<211> 1508

<212> DNA

<213> Homo sapiens

<400> 9

aattcagatt ttaagcccat tctgcagtgg aatttcatga actagcaaga 50 ggacaccatc ttcttgtatt atacaagaaa ggagtgtacc tatcacacac 100 agggggaaaa atgctctttt gggtgctagg cctcctaatc ctctgtggtt 150 ttctgtggac tcgtaaagga aaactaaaga ttgaagacat cactgataag 200 tacatttta tcactggatg tgactcgggc tttggaaact tggcagccag 250 aacttttgat aaaaagggat ttcatgtaat cgctgcctgt ctgactgaat 300 caggatcaac agctttaaag gcagaaacct cagagagact tcgtactgtg 350 cttctggatg tgaccgaccc agagaatgtc aagaggactg cccagtgggt 400

```
gaagaaccaa gttggggaga aaggtctctg gggtctgatc aataatgctg 450
gtgttcccgg cgtgctggct cccactgact ggctgacact agaggactac 500
agagaaccta ttgaagtgaa cctgtttgga ctcatcagtg tgacactaaa 550
tatgcttcct ttggtcaaga aagctcaagg gagagttatt aatgtctcca 600
gtgttggagg tcgccttgca atcgttggag ggggctatac tccatccaaa 650
tatgcagtgg aaggtttcaa tgacagctta agacgggaca tgaaagcttt 700
tggtgtgcac gtctcatgca ttgaaccagg attgttcaaa acaaacttgg 750
cagatccagt aaaggtaatt gaaaaaaaac tcgccatttg ggagcagctg 800
tctccagaca tcaaacaaca atatggagaa ggttacattg aaaaaagtct 850
agacaaactg aaaggcaata aatcctatgt gaacatggac ctctctccgg 900
tggtagagtg catggaccac gctctaacaa gtctcttccc taagactcat 950
tatgccgctg gaaaagatgc caaaattttc tggatacctc tgtctcacat 1000
gccagcagct ttgcaagact ttttattgtt gaaacagaaa gcagagctgg 1050
ctaatcccaa ggcagtgtga ctcagctaac cacaaatgtc tcctccaggc 1100
tatgaaattg gccgatttca agaacacatc tccttttcaa ccccattcct 1150
tatctgctcc aacctggact catttagatc gtgcttattt ggattgcaaa 1200
agggagtccc accatcgctg gtggtatccc agggtccctg ctcaagtttt 1250
ctttgaaaag gagggctgga atggtacatc acataggcaa gtcctgccct 1300
gtatttaggc tttgcctgct tggtgtgatg taagggaaat tgaaagactt 1350
gcccattcaa aatgatcttt accgtggcct gcccatgct tatggtcccc 1400
agcatttaca gtaacttgtg aatgttaagt atcatctctt atctaaatat 1450
aaaaaaaa 1508
```

```
<210> 10
```

<sup>&</sup>lt;211> 319 <212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;220>

<sup>&</sup>lt;221> sig\_peptide

<sup>&</sup>lt;222> 1-17

<sup>&</sup>lt;223> Signal Peptide

<sup>&</sup>lt;220>

<sup>&</sup>lt;221> misc\_feature

```
<222> 36-47, 108-113, 166-171,198-203, 207-212
<223> N-myristoylation Sites.
<220>
<221> misc feature
<222> 39-42
<223> Glycosaminoglycan Attachment Site.
<220>
<221> TRANSMEM
<222> 136-152
<223> Transmembrane Domain
<220>
<221> misc feature
<222> 161-\overline{1}63, 187-190 and 253-256
<223> N-glycosylation Sites.
<400> 10
Met Leu Phe Trp Val Leu Gly Leu Leu Ile Leu Cys Gly Phe Leu
Trp Thr Arg Lys Gly Lys Leu Lys Ile Glu Asp Ile Thr Asp Lys
Tyr Ile Phe Ile Thr Gly Cys Asp Ser Gly Phe Gly Asn Leu Ala
Ala Arg Thr Phe Asp Lys Gly Phe His Val Ile Ala Ala Cys
                  50
Leu Thr Glu Ser Gly Ser Thr Ala Leu Lys Ala Glu Thr Ser Glu
Arg Leu Arg Thr Val Leu Leu Asp Val Thr Asp Pro Glu Asn Val
                  80
Lys Arg Thr Ala Gln Trp Val Lys Asn Gln Val Gly Glu Lys Gly
                  95
Leu Trp Gly Leu Ile Asn Asn Ala Gly Val Pro Gly Val Leu Ala
                 110
Pro Thr Asp Trp Leu Thr Leu Glu Asp Tyr Arg Glu Pro Ile Glu
                                     130
Val Asn Leu Phe Gly Leu Ile Ser Val Thr Leu Asn Met Leu Pro
                 140
                                                          150
Leu Val Lys Lys Ala Gln Gly Arg Val Ile Asn Val Ser Ser Val
                                     160
Gly Gly Arg Leu Ala Ile Val Gly Gly Gly Tyr Thr Pro Ser Lys
                170
                                                         180
```

190

195

Tyr Ala Val Glu Gly Phe Asn Asp Ser Leu Arg Arg Asp Met Lys

```
Ala Phe Gly Val His 200 Val Ser Cys Ile Glu Pro Gly Leu Phe Lys 210

Thr Asn Leu Ala Asp Pro Val Lys Val Ile Glu Lys Lys Leu Ala 225

Ile Trp Glu Gln Leu Ser Pro Asp Ile Lys Gln Gln Tyr Gly Glu 240

Gly Tyr Ile Glu Lys Ser Leu Asp Lys Leu Lys Gly Asn Lys Ser 255

Tyr Val Asn Met Asp Leu Ser Pro Val Val Glu Cys Met Asp His 270

Ala Leu Thr Ser Leu Phe Pro Lys Thr His Tyr Ala Ala Gly Lys 285

Asp Ala Lys Ile Phe Trp Ile Pro Leu Ser His Met Pro Ala Ala 300

Leu Gln Asp Phe Leu Leu Leu Lys Gln Lys Ala Glu Leu Ala Asn 315
```

Pro Lys Ala Val

<210> 11 <211> 2720 <212> DNA <213> Homo sapines

<400> 11
gcgggctgtt gacggcgctg cgatggctgc ctgcgagggc aggagaagcg 50
gagctctcgg ttcctctcag tcggacttcc tgacgccgcc agtgggcggg 100
gccccttggg ccgtcgccac cactgtagtc atgtacccac cgccgccgcc 150
gccgcctcat cgggacttca tctcggtgac gctgagcttt ggcgagagct 200
atgacaacag caagagttgg cggcggcgct cgtgctggag gaaatggaag 250
caactgtcga gattgcagcg gaatatgatt ctcttcctcc ttgcctttct 300
gcttttctgt ggactcctct tctacatcaa cttggctgac cattggaaag 350
ctctggcttt caggctagag gaagagcaga agatgaggcc agaaattgct 400
gggttaaaac cagcaaatcc acccgtctta ccagctcctc agaaggcgga 450
caccgaccct gagaacttac ctgagattc gtcacagaag acacaaagac 500
acatccagcg gggaccacct cacctgcaga ttagacccc aagccaagac 550
ctgaaggatg ggacccagga ggaggccaca aaaaggcaag aagccctgt 600
ggatccccgc ccggaaggag atccgcagag gacagtcatc agctggaggg 650

gagcggtgat cgagcctgag cagggcaccg agctcccttc aagaagagca 700 gaagtgccca ccaagcctcc cctgccaccg gccaggacac agggcacacc 750 agtgcatctg aactatcgcc agaagggcgt gattgacgtc ttcctgcatg 800 catggaaagg ataccgcaag tttgcatggg gccatgacga gctgaagcct 850 gtgtccaggt ccttcagtga gtggtttggc ctcggtctca cactgatcga 900 cgcgctggac accatgtgga tcttgggtct gaggaaagaa tttgaggaag 950 ccaggaagtg ggtgtcgaag aagttacact ttgaaaagga cgtggacgtc 1000 aacctgtttg agagcacgat ccgcatcctg ggggggctcc tgagtgccta 1050 ccacctgtct ggggacagcc tcttcctgag gaaagctgag gattttggaa 1100 atcggctaat gcctgccttc agaacaccat ccaagattcc ttactcggat 1150 gtgaacatcg gtactggagt tgcccacccg ccacggtgga cctccgacag 1200 cactgtggcc gaggtgacca gcattcagct ggagttccgg gagctctccc 1250 gtctcacagg ggataagaag tttcaggagg cagtggagaa ggtgacacag 1300 cacatccacg gcctgtctgg gaagaaggat gggctggtgc ccatgttcat 1350 caatacccac agtggcctct tcacccacct gggcgtattc acgctgggcg 1400 ccagggccga cagctactat gagtacctgc tgaagcagtg gatccagggc 1450 gggaagcagg agacacagct gctggaagac tacgtggaag ccatcgaggg 1500 tgtcagaacg cacctgctgc ggcactccga gcccagtaag ctcacctttg 1550 tgggggagct tgcccacggc cgcttcagtg ccaagatgga ccacctggtg 1600 tgcttcctgc cagggacgct ggctctgggc gtctaccacg gcctgcccgc 1650 cagccacatg gagctggccc aggagctcat ggagacttgt taccagatga 1700 accggcagat ggagacgggg ctgagtcccg agatcgtgca cttcaacctt 1750 tacccccage egggeegteg ggaegtggag gteaageeag eagaeaggea 1800 caacctgctg cggccagaga ccgtggagag cctgttctac ctgtaccgcg 1850 tcacagggga ccgcaaatac caggactggg gctgggagat tctgcagagc 1900 ttcagccgat tcacacgggt cccctcgggt ggctattctt ccatcaacaa 1950 tgtccaggat cctcagaagc ccgagcctag ggacaagatg gagagcttct 2000 tcctggggga gacgctcaag tatctgttct tgctcttctc cgatgaccca 2050 aacctgctca gcctggacgc ctacgtgttc aacaccgaag cccaccctct 2100

```
gcctatctgg acccctgcct agggtggatg gctgctggtg tggggacttc 2150
 gggtgggcag aggcaccttg ctgggtctgt ggcattttcc aagggcccac 2200
 gtagcaccgg caaccgccaa gtggcccagg ctctgaactg gctctgggct 2250
 cctcctcgtc tctgctttaa tcaggacacc gtgaggacaa gtgaggccgt 2300
 cagtcttggt gtgatgcggg gtgggctggg ccgctggagc ctccqcctgc 2350
 ttcctccaga agacacgaat catgactcac gattgctgaa gcctgagcag 2400
 gtctctgtgg gccgaccaga ggggggcttc gaggtggtcc ctggtactgg 2450
 ggtgaccgag tggacagccc agggtgcagc tctgcccggg ctcgtgaagc 2500
 ctcagatgtc cccaatccaa gggtctggag gggctgccgt gactccagag 2550
gcctgaggct ccagggctgg ctctggtgtt tacaagctgg actcagggat 2600
 cctcctggcc gccccgcagg gggcttggag ggctggacgg caagtccgtc 2650
tagctcacgg gcccctccag tggaatgggt cttttcggtg gagataaaag 2700
ttgatttgct ctaaccgcaa 2720
<210> 12
```

<211> 699

<212> PRT

<213> Homo sapiens

<220>

<221> TRANSMEM

<222> 21-40 and 84-105

<223> Transmembrane Domain (type II)

## <400> 12

Met Ala Ala Cys Glu Gly Arg Arg Ser Gly Ala Leu Gly Ser Ser

Gln Ser Asp Phe Leu Thr Pro Pro Val Gly Gly Ala Pro Trp Ala

Val Ala Thr Thr Val Val Met Tyr Pro Pro Pro Pro Pro Pro

His Arg Asp Phe Ile Ser Val Thr Leu Ser Phe Gly Glu Ser Tyr 50

Asp Asn Ser Lys Ser Trp Arg Arg Arg Ser Cys Trp Arg Lys Trp

Lys Gln Leu Ser Arg Leu Gln Arg Asn Met Ile Leu Phe Leu Leu

Ala Phe Leu Leu Phe Cys Gly Leu Leu Phe Tyr Ile Asn Leu Ala 100 105

Asp His Trp Lys Ala Leu Ala Phe Arg Leu Glu Glu Glu Gln Lys 115 110 Met Arg Pro Glu Ile Ala Gly Leu Lys Pro Ala Asn Pro Pro Val Leu Pro Ala Pro Gln Lys Ala Asp Thr Asp Pro Glu Asn Leu Pro Glu Ile Ser Ser Gln Lys Thr Gln Arg His Ile Gln Arg Gly Pro 155 Pro His Leu Gln Ile Arg Pro Pro Ser Gln Asp Leu Lys Asp Gly 170 175 Thr Gln Glu Glu Ala Thr Lys Arg Gln Glu Ala Pro Val Asp Pro 190 Arg Pro Glu Gly Asp Pro Gln Arg Thr Val Ile Ser Trp Arg Gly Ala Val Ile Glu Pro Glu Gln Gly Thr Glu Leu Pro Ser Arg Arg Ala Glu Val Pro Thr Lys Pro Pro Leu Pro Pro Ala Arg Thr Gln Gly Thr Pro Val His Leu Asn Tyr Arg Gln Lys Gly Val Ile Asp Val Phe Leu His Ala Trp Lys Gly Tyr Arg Lys Phe Ala Trp Gly His Asp Glu Leu Lys Pro Val Ser Arg Ser Phe Ser Glu Trp Phe Gly Leu Gly Leu Thr Leu Ile Asp Ala Leu Asp Thr Met Trp Ile 290 Leu Gly Leu Arg Lys Glu Phe Glu Glu Ala Arg Lys Trp Val Ser Lys Lys Leu His Phe Glu Lys Asp Val Asp Val Asn Leu Phe Glu Ser Thr Ile Arg Ile Leu Gly Gly Leu Leu Ser Ala Tyr His Leu Ser Gly Asp Ser Leu Phe Leu Arg Lys Ala Glu Asp Phe Gly Asn Arg Leu Met Pro Ala Phe Arg Thr Pro Ser Lys Ile Pro Tyr Ser Asp Val Asn Ile Gly Thr Gly Val Ala His Pro Pro Arg Trp Thr 390 Ser Asp Ser Thr Val Ala Glu Val Thr Ser Ile Gln Leu Glu Phe

				395					400					405
Arg	Glu	Leu	Ser	Arg 410	Leu	Thr	Gly	Asp	Lys 415	Lys	Phe	Gln	Glu	Ala 420
Val	Glu	Lys	Val	Thr 425	Gln	His	Ile	His	Gly 430	Leu	Ser	Gly	Lys	Lys 435
Asp	Gly	Leu	Val	Pro 440	Met	Phe	Ile	Asn	Thr 445	His	Ser	Gly	Leu	Phe 450
Thr	His	Leu	Gly	Val 455	Phe	Thr	Leu	Gly	Ala 460	Arg	Ala	Asp	Ser	Tyr 465
Tyr	Glu	Tyr	Leu	Leu 470	Lys	Gln	Trp	Ile	Gln 475	Gly	Gly	Lys	Gln	Glu 480
Thr	Gln	Leu	Leu	Glu 485	Asp	Tyr	Val	Glu	Ala 490	Ile	Glu	Gly	Val	Arg 495
Thr	His	Leu	Leu	Arg 500	His	Ser	Glu	Pro	Ser 505	Lys	Leu	Thr	Phe	Val 510
Gly	Glu	Leu	Ala	His 515	Gly	Arg	Phe	Ser	Ala 520	Lys	Met	Asp	His	Leu 525
Val	Cys	Phe	Leu	Pro 530	Gly	Thr	Leu	Ala	Leu 535	Gly	Val	Tyr	His	Gly 540
Leu	Pro	Ala	Ser	His 545	Met	Glu	Leu	Ala	Gln 550	Glu	Leu	Met	Glu	Thr 555
Cys	Tyr	Gln	Met	Asn 560	Arg	Gln	Met	Glu	Thr 565	Gly	Leu	Ser	Pro	Glu 570
Ile	Val	His	Phe	Asn 575	Leu	Tyr	Pro	Gln	Pro 580	Gly	Arg	Arg	Asp	Val 585
Glu	Val	Lys	Pro	Ala 590	Asp	Arg	His	Asn	Leu 595	Leu	Arg	Pro	Glu	Thr 600
Val	Glu	Ser	Leu	Phe 605	Tyr	Leu	Tyr	Arg	Val 610	Thr	Gly	Asp	Arg	Lys 615
Tyr	Gln	Asp	Trp	Gly 620	Trp	Glu	Ile	Leu	Gln 625	Ser	Phe	Ser	Arg	Phe 630
Thr	Arg	Val	Pro	Ser 635	Gly	Gly	Tyr	Ser	Ser 640	Ile	Asn	Asn	Val	Gln 645
Asp	Pro	Gln	Lys	Pro 650	Glu	Pro	Arg	Asp	Lys 655	Met	Glu	Ser	Phe	Phe 660
Leu	Gly	Glu	Thr	Leu 665	Lys	Tyr	Leu	Phe	Leu 670	Leu	Phe	Ser	Asp	Asp 675
Pro	Asn	Leu	Leu	Ser 680	Leu	Asp	Ala	Tyr	Val 685	Phe	Asn	Thr	Glu	Ala 690

```
695
<210> 13
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 13
 cgccagaagg gcgtgattga cgtc 24
<210> 14
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 14
 ccatccttct tcccagacag gccg 24
<210> 15
<211> 44
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-44
<223> Synthetic construct.
<400> 15
 gaagectgtg tecaggteet teagtgagtg gtttggeete ggte 44
<210> 16
<211> 1524
<212> DNA
<213> Homo sapiens
<400> 16
ggcgccgcgt aggcccggga ggccgggccg gccgggctgc gagcgcctgc 50
 cccatgcgcc gccgcctctc cgcacgatgt tcccctcgcg gaggaaagcg 100
 gcgcagctgc cctgggagga cggcaggtcc gggttgctct ccggcggcct 150
 ccctcggaag tgttccgtct tccacctgtt cgtggcctgc ctctcgctgg 200
gcttcttctc cctactctgg ctgcagctca gctgctctgg ggacgtggcc 250
```

His Pro Leu Pro Ile Trp Thr Pro Ala

```
cgggcagtca ggggacaagg gcaggagacc tcgggccctc cccgtgcctg 300
cccccagag ccgcccctg agcactggga agaagacgca tcctggggcc 350
cccaccgcct ggcagtgctg gtgcccttcc gcgaacgctt cgaggagctc 400
ctggtcttcg tgccccacat gcgccgcttc ctgagcagga agaagatccg 450
gcaccacatc tacgtgctca accaggtgga ccacttcagg ttcaaccggg 500
cagcgctcat caacgtgggc ttcctggaga gcagcaacag cacggactac 550
attgccatgc acgacgttga cctgctccct ctcaacgagg agctggacta 600
tggctttcct gaggctgggc ccttccacgt ggcctccccg gagctccacc 650
ctctctacca ctacaagacc tatgtcggcg gcatcctgct gctctccaag 700
cagcactacc ggctgtgcaa tgggatgtcc aaccgcttct ggggctgggg 750
ccgcgaggac gacgagttct accggcgcat taagggagct gggctccagc 800
ttttccgccc ctcgggaatc acaactgggt acaagacatt tcgccacctg 850
catgacccag cctggcggaa gagggaccag aagcgcatcg cagctcaaaa 900
acaggagcag ttcaaggtgg acagggaggg aggcctgaac actgtgaagt 950
accatgtggc ttcccgcact gccctgtctg tgggcggggc cccctgcact 1000
gtcctcaaca tcatgttgga ctgtgacaag accgccacac cctggtgcac 1050
attcagctga gctggatgga cagtgaggaa gcctgtacct acaggccata 1100
ttgctcaggc tcaggacaag gcctcaggtc gtgggcccag ctctgacagg 1150
atgtggagtg gccaggacca agacagcaag ctacgcaatt gcagccaccc 1200
ggccgccaag gcaggcttgg gctgggccag gacacgtggg gtgcctggga 1250
cgctgcttgc catgcacagt gatcagagag aggctggggt gtgtcctgtc 1300
cgggaccccc cctgccttcc tgctcaccct actctgacct ccttcacgtg 1350
cccaggcctg tgggtagtgg ggagggctga acaggacaac ctctcatcac 1400
cctactctga cctccttcac gtgcccaggc ctgtgggtag tggggagggc 1450
aaaaaaaaa aaaaaaaaa aaaa 1524
```

<220>

<sup>&</sup>lt;210> 17

<sup>&</sup>lt;211> 327

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

```
<221> sig peptide
<222> 1-42
<223> Signal peptide.
<220>
<221> misc feature
<222> 19-25,65-71,247-253,285-291,303-310
<223> N-myristoylation site.
<220>
<221> misc feature
<222> 27-3\overline{1}
<223> cAMP- and cGMP-dependent protein kinase phosphorylation site.
<220>
<221> TRANSMEM
<222> 29-49
<223> Transmembrane domain (type II).
<220>
<221> misc_feature
<222> 154-158
<223> N-glycosylation site.
<220>
<221> misc feature
<222> 226-233
<223> Tyrosine kinase phosphorylation site.
<400> 17
Met Phe Pro Ser Arg Arg Lys Ala Ala Gln Leu Pro Trp Glu Asp
Gly Arg Ser Gly Leu Leu Ser Gly Gly Leu Pro Arg Lys Cys Ser
Val Phe His Leu Phe Val Ala Cys Leu Ser Leu Gly Phe Phe Ser
Leu Leu Trp Leu Gln Leu Ser Cys Ser Gly Asp Val Ala Arg Ala
Val Arg Gly Gln Glu Thr Ser Gly Pro Pro Arg Ala Cys
Pro Pro Glu Pro Pro Glu His Trp Glu Glu Asp Ala Ser Trp
Gly Pro His Arg Leu Ala Val Leu Val Pro Phe Arg Glu Arg Phe
                                                          105
Glu Glu Leu Leu Val Phe Val Pro His Met Arg Arg Phe Leu Ser
                                     115
Arg Lys Lys Ile Arg His His Ile Tyr Val Leu Asn Gln Val Asp
                 125
                                     130
                                                          135
```

His Phe Arg Phe Asn Arg Ala Ala Leu Ile Asn Val Gly Phe Leu

<220>

<221> Artificial Sequence

				140					145					150
Glu	Ser	Ser	Asn	Ser 155	Thr	Asp	Tyr	Ile	Ala 160	Met	His	Asp	Val	Asp 165
Leu	Leu	Pro	Leu	Asn 170	Glu	Glu	Leu	Asp	Tyr 175	Gly	Phe	Pro	Glu	Ala 180
Gly	Pro	Phe	His	Val 185	Ala	Ser	Pro	Glu	Leu 190	His	Pro	Leu	Tyr	His 195
Tyr	Lys	Thr	Tyr	Val 200	Gly	Gly	Ile	Leu	Leu 205	Leu	Ser	Lys	Gln	His 210
Tyr	Arg	Leu	Cys	Asn 215	Gly	Met	Ser	Asn	Arg 220	Phe	Trp	Gly	Trp	Gly 225
Arg	Glu	Asp	Asp	Glu 230	Phe	Tyr	Arg	Arg	Ile 235	Lys	Gly	Ala	Gly	Leu 240
Gln	Leu	Phe	Arg	Pro 245	Ser	Gly	Ile	Thr	Thr 250	Gly	Tyr	Lys	Thr	Phe 255
Arg	His	Leu	His	Asp 260	Pro	Ala	Trp	Arg	Lys 265	Arg	Asp	Gln	Lys	Arg 270
Ile	Ala	Ala	Gln	Lys 275	Gln	Glu	Gln	Phe	Lys 280	Val	Asp	Arg	Glu	Gly 285
Gly	Leu	Asn	Thr	Val 290	Lys	Tyr	His	Val	Ala 295	Ser	Arg	Thr	Ala	Leu 300
Ser	Val	Gly	Gly	Ala 305	Pro	Cys	Thr	Val	Leu 310	Asn	Ile	Met	Leu	Asp 315
Cys	Asp	Lys	Thr	Ala 320	Thr	Pro	Trp	Cys	Thr 325	Phe	Ser			
<210> 18 <211> 23 <212> DNA <213> Artificial														
<220> <221> Artificial Sequence <222> 1-23 <223> Synthetic construct.														
<4000 gcga		ctt o	gagg	gagto	cc to	gg 23	3							
<2112 <2122	gcgaacgctt cgaggagtcc tgg 23  <210> 19 <211> 24 <212> DNA <213> Artificial													

```
<222> 1-24
<223> Synthetic construct
<400> 19
 gcagtgcggg aagccacatg gtac 24
<210> 20
<211> 46
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-46
<223> Synthetic construct.
<400> 20
 cttcctgagc aggaagaaga tccggcacca catctacgtg ctcaac 46
<210> 21
<211> 494
<212> DNA
<213> Homo sapiens
<400> 21
 caatgtttgc ctatccacct cccccaagec cctttaccta tgctgctgct 50
 aacgctgctg ctgctgctgc tgctgcttaa aggctcatgc ttggagtggg 100
 gactggtcgg tgcccagaaa gtctcttctg ccactgacgc ccccatcagg 150
 gattgggcct tctttccccc ttcctttctg tgtctcctgc ctcatcggcc 200
 tgccatgacc tgcagccaag cccagccccg tggggaaggg gagaaagtgg 250
 gggatggcta agaaagctgg gagataggga acagaagagg gtagtgggtg 300
 ggctaggggg gctgccttat ttaaagtggt tgtttatgat tcttatacta 350
 atttatacaa agatattaag gccctgttca ttaagaaatt gttcccttcc 400
 cctgtgttca atgtttgtaa agattgttct gtgtaaatat gtctttataa 450
 <210> 22
<211> 73
<212> PRT
<213> Homo sapiens
<220>
<221> sig_peptide
<222> 1-15
<223> Signal peptide.
<220>
<221> misc feature
<222> 3-18
```

<223> Growth factor and cytokines receptors family.

<400> 22

Ser Cys Leu Glu Trp Gly Leu Val Gly Ala Gln Lys Val Ser Ser 20 25 30

Ala Thr Asp Ala Pro Ile Arg Asp Trp Ala Phe Phe Pro Pro Ser 35 40 45

Phe Leu Cys Leu Leu Pro His Arg Pro Ala Met Thr Cys Ser Gln 50 55 60

Ala Gln Pro Arg Gly Glu Gly Glu Lys Val Gly Asp Gly 65 70

<210> 23

<211> 2883

<212> DNA

<213> Homo sapiens

<400> 23

gggacccatg cggccgtgac ccccggctcc ctagaggccc agcgcagccg 50 cagcggacaa aggagcatgt ccgcgccggg gaaggcccgt cctccggccg 100 ggctccgggg cggcccgcta ggccagtgcg ccgccgctcg ccccgcaggc 200 cccggcccgc agcatggagc cacccggacg ccggcggggc cgcgcgcagc 250 cgccgctgtt gctgccgctc tcgctgttag cgctgctcgc gctgctggga 300 ggcggcggcg gcggcggcgc cgcggcgctg cccgccggct gcaagcacga 350 tgggcggccc cgaggggctg gcagggcggc gggcgccgcc gagggcaagg 400 tggtgtgcag cagcctggaa ctcgcgcagg tcctgcccc agatactctg 450 cccaaccgca cggtcaccct gattctgagt aacaataaga tatccgagct 500 gaagaatggc tcattttctg ggttaagtct ccttgaaaga ttggacctcc 550 gaaacaatct tattagtagt atagatccag gtgccttctg gggactgtca 600 tctctaaaaa gattggatct gacaaacaat cgaataggat gtctgaatgc 650 agacatattt cgaggactca ccaatctggt tcggctaaac ctttcgggga 700 atttgttttc ttcattatct caaggaactt ttgattatct tgcgtcatta 750 cggtctttgg aattccagac tgagtatctt ttgtgtgact gtaacatact 800 gtggatgcat cgctgggtaa aggagaagaa catcacggta cgggatacca 850

ggtgtgttta tcctaagtca ctgcaggccc aaccagtcac aggcgtgaag 900 caggagetgt tgacatgega eceteegett gaattgeegt etttetacat 950 gactccatct catcgccaag ttgtgtttga aggagacagc cttcctttcc 1000 agtgcatggc ttcatatatt gatcaggaca tgcaagtgtt gtggtatcag 1050 gatgggagaa tagttgaaac cgatgaatcg caaggtattt ttgttgaaaa 1100 gaacatgatt cacaactgct ccttgattgc aagtgcccta accatttcta 1150 atattcaggc tggatctact ggaaattggg gctgtcatgt ccagaccaaa 1200 cgtgggaata atacgaggac tgtggatatt gtggtattag agagttctgc 1250 acagtactgt cctccagaga gggtggtaaa caacaaaggt gacttcagat 1300 ggcccagaac attggcaggc attactgcat atctgcagtg tacgcggaac 1350 acccatggca gtgggatata tcccggaaac ccacaggatg agagaaaagc 1400 ttggcgcaga tgtgatagag gtggcttttg ggcagatgat gattattctc 1450 gctgtcagta tgcaaatgat gtcactagag ttctttatat gtttaatcag 1500 atgcccctca atcttaccaa tgccgtggca acagctcgac agttactggc 1550 ttacactgtg gaagcagcca acttttctga caaaatggat gttatatttg 1600 tggcagaaat gattgaaaaa tttggaagat ttaccaagga ggaaaaatca 1650 aaagagctag gtgacgtgat ggttgacatt gcaagtaaca tcatgttggc 1700 tgatgaacgt gtcctgtggc tggcgcagag ggaagctaaa gcctgcagta 1750 ggattgtgca gtgtcttcag cgcattgcta cctaccggct agccggtgga 1800 gctcacgttt attcaacata ttcacccaat attgctctgg aagcttatgt 1850 catcaagtct actggcttca cggggatgac ctgtaccgtg ttccagaaag 1900 tggcagcctc tgatcgtaca ggactttcgg attatgggag gcgggatcca 1950 gagggaaacc tggataagca gctgagcttt aagtgcaatg tttcaaatac 2000 attttcgagt ctggcactaa aggtatgtta cattctgcaa tcatttaaga 2050 ctatttacag ttaaattaga atgctccaaa tgttctgctt cgcaaaataa 2100 ccttattaaa agatttttt ttgcaggaag ataggtatta ttgcttttgc 2150 tactgtttta aagaaaacta accaggaaga actgcattac gactttcaag 2200 ggccctaggc attittgcct ttgattccct ttcttcacat aaaaatatca 2250 gaaattacat tttataactg cagtggtata aatgcaaata tactattgtt 2300

```
acatgtgaaa aaattttatt tgacttaaaa gtttatttat ttgtttttt 2350
 gctcctgatt ttaagacaat aagatgtttt catgggcccc taaaagtatc 2400
 atgageettt ggeactgege etgecaagee tagtggagaa gteaaccetg 2450
 agaccaggtg tttaatcaag caagctgtat atcaaaattt ttggcagaaa 2500
 acacaaatat gtcatatatc tttttttaaa aaaagtattt cattgaagca 2550
 agcaaaatga aagcattttt actgattttt aaaattggtg ctttagatat 2600
 atttgactac actgtattga agcaaataga ggaggcacaa ctccagcacc 2650
 ctaatggaac cacatttttt tcacttagct ttctgtgggc atgtgtaatt 2700
 gtattctctg cggtttttaa tctcacagta ctttatttct gtcttgtccc 2750
 tcaataatat cacaaacaat attccagtca ttttaatggc tgcataataa 2800
 ctgatccaac aggtgttagg tgttctggtt tagtgtgagc actcaataaa 2850
 tattgaatga atgaacgaaa aaaaaaaaaa aaa 2883
<210> 24
<211> 616
<212> PRT
<213> Homo sapiens
<220>
<221> sig_peptide
<222> 1-33
<223> Signal peptide.
<220>
<221> TRANSMEM
<222> 13-40
<223> Transmembrane domain (type II).
<400> 24
Met Glu Pro Pro Gly Arg Arg Gly Arg Ala Gln Pro Pro Leu
  1
Leu Leu Pro Leu Ser Leu Leu Ala Leu Leu Ala Leu Leu Gly Gly
                  20
Gly Gly Gly Gly Ala Ala Leu Pro Ala Gly Cys Lys His
```

80

Asp Gly Arg Pro Arg Gly Ala Gly Arg Ala Ala Gly Ala Ala Glu

Gly Lys Val Val Cys Ser Ser Leu Glu Leu Ala Gln Val Leu Pro

Pro Asp Thr Leu Pro Asn Arg Thr Val Thr Leu Ile Leu Ser Asn

85

31

Asn Lys Ile Ser Glu Leu Lys Asn Gly Ser Phe Ser Gly Leu Ser Leu Leu Glu Arg Leu Asp Leu Arg Asn Asn Leu Ile Ser Ser Ile Asp Pro Gly Ala Phe Trp Gly Leu Ser Ser Leu Lys Arg Leu Asp Leu Thr Asn Asn Arg Ile Gly Cys Leu Asn Ala Asp Ile Phe Arg 145 Gly Leu Thr Asn Leu Val Arg Leu Asn Leu Ser Gly Asn Leu Phe Ser Ser Leu Ser Gln Gly Thr Phe Asp Tyr Leu Ala Ser Leu Arg Ser Leu Glu Phe Gln Thr Glu Tyr Leu Leu Cys Asp Cys Asn Ile Leu Trp Met His Arg Trp Val Lys Glu Lys Asn Ile Thr Val Arg Asp Thr Arg Cys Val Tyr Pro Lys Ser Leu Gln Ala Gln Pro Val Thr Gly Val Lys Gln Glu Leu Leu Thr Cys Asp Pro Pro Leu Glu Leu Pro Ser Phe Tyr Met Thr Pro Ser His Arg Gln Val Val Phe Glu Gly Asp Ser Leu Pro Phe Gln Cys Met Ala Ser Tyr Ile Asp Gln Asp Met Gln Val Leu Trp Tyr Gln Asp Gly Arg Ile Val Glu Thr Asp Glu Ser Gln Gly Ile Phe Val Glu Lys Asn Met Ile His Asn Cys Ser Leu Ile Ala Ser Ala Leu Thr Ile Ser Asn Ile Gln Ala Gly Ser Thr Gly Asn Trp Gly Cys His Val Gln Thr Lys Arg Gly Asn Asn Thr Arg Thr Val Asp Ile Val Val Leu Glu Ser Ser Ala Gln Tyr Cys Pro Pro Glu Arg Val Val Asn Asn Lys Gly Asp Phe Arg Trp Pro Arg Thr Leu Ala Gly Ile Thr Ala Tyr Leu Gln Cys Thr Arg Asn Thr His Gly Ser Gly Ile Tyr Pro Gly Asn Pro

				380					385					390
Gln	Asp	Glu	Arg	Lys 395	Ala	Trp	Arg	Arg	Cys 400	Asp	Arg	Gly	Gly	Phe 405
Trp	Ala	Asp	Asp	Asp 410	Tyr	Ser	Arg	Cys	Gln 415	Tyr	Ala	Asn	Asp	Val 420
Thr	Arg	Val	Leu	Tyr 425	Met	Phe	Asn	Gln	Met 430	Pro	Leu	Asn	Leu	Thr 435
Asn	Ala	Val	Ala	Thr 440	Ala	Arg	Gln	Leu	Leu 445	Ala	Tyr	Thr	Val	Glu 450
Ala	Ala	Asn	Phe	Ser 455	Asp	Lys	Met	Asp	Val 460	Ile	Phe	Val	Ala	Glu 465
Met	Ile	Glu	Lys	Phe 470	Gly	Arg	Phe	Thr	Lys 475	Glu	Glu	Lys	Ser	Lys 480
Glu	Leu	Gly	Asp	Val 485	Met	Val	Asp	Ile	Ala 490	Ser	Asn	Ile	Met	Leu 495
Ala	Asp	Glu	Arg	Val 500	Leu	Trp	Leu	Ala	Gln 505	Arg	Glu	Ala	Lys	Ala 510
Cys	Ser	Arg	Ile	Val 515	Gln	Cys	Leu	Gln	Arg 520	Ile	Ala	Thr	Tyr	Arg 525
Leu	Ala	Gly	Gly	Ala 530	His	Val	Tyr	Ser	Thr 535	Tyr	Ser	Pro	Asn	Ile 540
Ala	Leu	Glu	Ala	Tyr 545	Val	Ile	Lys	Ser	Thr 550	Gly	Phe	Thr	Gly	Met 555
Thr	Суз	Thr	Val	Phe 560	Gln	Lys	Val	Ala	Ala 565	Ser	Asp	Arg	Thr	Gly 570
Leu	Ser	Asp	Tyr	Gly 575	Arg	Arg	Asp	Pro	Glu 580	Gly	Asn	Leu	Asp	Lys 585
Gln	Leu	Ser	Phe	Lys 590	Cys	Asn	Val	Ser	Asn 595	Thr	Phe	Ser	Ser	Leu 600
Ala	Leu	Lys	Val	Cys 605	Tyr	Ile	Leu	Gln	Ser 610	Phe	Lys	Thr	Ile	Tyr 615
Ser														

Ser

<210> 25 <211> 24 <212> DNA

<213> Artificial

<220>

<221> Artificial Sequence <222> 1-24

```
<223> Synthetic construct
<400> 25
 gaggactcac caatctggtt cggc 24
<210> 26
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 26
 aactggaaag gaaggctgtc tccc 24
<210> 27
<211> 50
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-50
<223> Synthetic construct.
<400> 27
gtaaaggaga agaacatcac ggtacgggat accaggtgtg tttatcctaa 50
<210> 28
<211> 683
<212> DNA
<213> Homo sapiens
<400> 28
 gcgtggggat gtctaggagc tcgaaggtgg tgctgggcct ctcqqtgctg 50
 ctgacggcgg ccacagtggc cggcgtacat gtgaagcagc agtgggacca 100
gcagaggctt cgtgacggag ttatcagaga cattgagagg caaattcgga 150
 aaaaagaaaa cattcgtctt ttgggagaac agattatttt gactgagcaa 200
cttgaagcag aaagagagaa gatgttattg gcaaaaggat ctcaaaaatc 250
atgacttgaa tgtgaaatat ctgttggaca gacaacacga gtttgtgtgt 300
gtgtgttgat ggagagtagc ttagtagtat cttcatcttt ttttttggtc 350
actgtccttt taaacttgat caaataaagg acagtgggtc atataagtta 400
ctgctttcag ggtcccttat atctgaataa aggagtgtgg gcagacactt 450
tttggaagag tctgtctggg tgatcctggt agaagcccca ttagggtcac 500
tgtccagtgc ttagggttgt tactgagaag cactgccgag cttgtgagaa 550
```

ggaagggatg gatagtagca tccacctgag tagtctgatc agtcggcatg 600 atgacgaagc cacgagaaca tcgacctcag aaggactgga ggaaggtgaa 650 gtggagggag agacgctcct gatcgtcgaa tcc 683

<210> 29

<211> 81

<212> PRT

<213> Homo sapiens

<220>

<221> sig\_peptide

<222> 1-21

<223> Signal peptide.

<400> 29

Met Ser Arg Ser Ser Lys Val Val Leu Gly Leu Ser Val Leu Leu 1 5 10 15

Thr Ala Ala Thr Val Ala Gly Val His Val Lys Gln Gln Trp Asp 20 25 30

Gln Gln Arg Leu Arg Asp Gly Val Ile Arg Asp Ile Glu Arg Gln
35 40 45

Ile Arg Lys Lys Glu Asn Ile Arg Leu Leu Gly Glu Gln Ile Ile
50 55 60

Leu Thr Glu Gln Leu Glu Ala Glu Arg Glu Lys Met Leu Leu Ala 65 70 75

Lys Gly Ser Gln Lys Ser 80

<210> 30

<211> 2128

<212> DNA

<213> Homo sapiens

<400> 30

tacagcetgt tecaagtgtg gettaateeg tetecaceae cagatette 100
teegtggatt cetetgetaa gacegetgee atgeeagtga eggtaaceeg 150
caccaccate acaaccacea egacgteate ttegggeetg gggteeceea 200
tgategtggg gteecetegg geeetgacae ageeeetggg teteettege 250
etgetgeage tggtgtetae etgegtggee tteteggtgg tggetagegt 300
gggegeetgg aeggggteea tgggeaactg gteeatgtte acetggtget 350
tetgettete egtgaeeetg ateateetea tegtggaget gtggeggete 400
caggeeeget teeceetgte ttggegaae tteeceatea cettegeetg 450

ctatgcggcc ctcttctgcc tctcggcctc catcatctac cccaccacct 500 atgtccagtt cctgtcccac ggccgttcgc gggaccacgc catcgccgcc 550 accttcttct cctgcatcgc gtgtgtggct tacgccaccg aagtggcctg 600 gacccgggcc cggcccggcg agatcactgg ctatatggcc accgtacccg 650 ggctgctgaa ggtgctggag accttcgttg cctgcatcat cttcgcgttc 700 atcagcgacc ccaacctgta ccagcaccag ccggccctgg agtggtgcgt 750 ggcggtgtac gccatctgct tcatcctagc ggccatcgcc atcctgctga 800 acctggggga gtgcaccaac gtgctaccca tccccttccc cagcttcctg 850 teggggetgg cettgetgte tgteeteete tatgeeaceg ceettgttet 900 ctggcccctc taccagttcg atgagaagta tggcggccag cctcggcgct 950 cgagagatgt aagctgcagc cgcagccatg cctactacgt gtgtgcctgg 1000 gaccgccgac tggctgtggc catcctgacg gccatcaacc tactggcgta 1050 tgtggctgac ctggtgcact ctgcccacct ggtttttgtc aaggtctaag 1100 actotoccaa gaggotoccg ttocototoc aacototttg ttottottgc 1150 ccgagttttc tttatggagt acttctttcc tccgcctttc ctctgttttc 1200 ctcttcctgt ctcccctccc tcccaccttt ttctttcctt cccaattcct 1250 tgcactctaa ccagttcttg gatgcatctt cttccttccc tttcctcttg 1300 ctgtttcctt cctgtgttgt tttgttgccc acatcctgtt ttcacccctg 1350 gattctcact ctgtggccca ggctggagtg cagtggtgcg atctcagctc 1450 actgcaaccc ccgcctcctg ggttcaagcg attctcctcc cccagcctcc 1500 caagtagctg ggaggacagg tgtgagctgc cgcacccagc ctgtttctct 1550 ttttccactc ttctttttc tcatctcttt tctgggttgc ctgtcggctt 1600 tcttatctgc ctgttttgca agcaccttct cctgtgtcct tgggagccct 1650 gagacttett teteteettg cetecaceca cetecaaagg tgetgagete 1700 acatccacac cccttgcagc cgtccatgcc acagcccccc aaggggcccc 1750 attgccaaag catgcctgcc caccctcgct gtgccttagt cagtgtgtac 1800 ggccctcttt ctcccagtgg aggaaggtgt gcagtgtact tcccctttaa 1900

attaaaaac atatatat atatattgg aggtcagtaa tttccaatgg 1950 gegggaggca ttaagcaccg accetgggte cetaggecee geetggeact 2000 cagcettgee agagattgge tecagaattt ttgccagget tacagaacae 2050 ceactgeeta gaggecatet taaaggaage agggetgga tgeettteat 2100 cecaactatt etetgtggta tgaaaaag 2128

<210> 31

<211> 322

<212> PRT

<213> Homo sapiens

<400> 31

Met Pro Val Thr Val Thr Arg Thr Thr Ile Thr Thr Thr Thr Thr 1 5 10 15

Ser Ser Ser Gly Leu Gly Ser Pro Met Ile Val Gly Ser Pro Arg 20 25 30

Ala Leu Thr Gln Pro Leu Gly Leu Leu Arg Leu Leu Gln Leu Val
35 40 45

Ser Thr Cys Val Ala Phe Ser Leu Val Ala Ser Val Gly Ala Trp 50 55 60

Thr Gly Ser Met Gly Asn Trp Ser Met Phe Thr Trp Cys Phe Cys
65 70 75

Phe Ser Val Thr Leu Ile Ile Leu Ile Val Glu Leu Cys Gly Leu 80 85 90

Gln Ala Arg Phe Pro Leu Ser Trp Arg Asn Phe Pro Ile Thr Phe 95 100 105

Ala Cys Tyr Ala Ala Leu Phe Cys Leu Ser Ala Ser Ile Ile Tyr 110 115 120

Pro Thr Tyr Val Gln Phe Leu Ser His Gly Arg Ser Arg Asp 125 130 135

His Ala Ile Ala Ala Thr Phe Phe Ser Cys Ile Ala Cys Val Ala 140 145 150

Tyr Ala Thr Glu Val Ala Trp Thr Arg Ala Arg Pro Gly Glu Ile 155 160 165

Thr Gly Tyr Met Ala Thr Val Pro Gly Leu Leu Lys Val Leu Glu 170 175 180

Thr Phe Val Ala Cys Ile Ile Phe Ala Phe Ile Ser Asp Pro Asn 185 190 195

Leu Tyr Gln His Gln Pro Ala Leu Glu Trp Cys Val Ala Val Tyr 200 205 210

```
Ala Ile Cys Phe Ile Leu Ala Ala Ile Ala Ile Leu Leu Asn Leu
Gly Glu Cys Thr Asn Val Leu Pro Ile Pro Phe Pro Ser Phe Leu
Ser Gly Leu Ala Leu Leu Ser Val Leu Leu Tyr Ala Thr Ala Leu
                245
                                    250
                                                         255
Val Leu Trp Pro Leu Tyr Gln Phe Asp Glu Lys Tyr Gly Gln
                                                         270
                260
                                    265
Pro Arg Arg Ser Arg Asp Val Ser Cys Ser Arg Ser His Ala Tyr
                275
                                    280
                                                         285
Tyr Val Cys Ala Trp Asp Arg Arg Leu Ala Val Ala Ile Leu Thr
                290
                                    295
                                                         300
Ala Ile Asn Leu Leu Ala Tyr Val Ala Asp Leu Val His Ser Ala
                305
                                    310
                                                         315
```

His Leu Val Phe Val Lys Val 320

<210> 32 <211> 3680 <212> DNA <213> Homo sapiens

<400> 32
gaacgtgcca ccatgcccag ctaatttttg tatttttagt agagacgggg 50
tttcaccatg ttggccaggc tggtcttgaa ctcgtgacct catgatccgc 100
tcacctcggc ctcccaaagt gctgggatta caggcatgag ccactgacgc 150
ctggccagcc tatgcatttt taagaaatta ttctgtatta ggtgctgtgc 200
taaacattgg gcactacagt gaccaaaaca gactgaattc cccaagagcc 250
aaagaccagt gagggagacc aacaagaaac aggaaatgca aaagagacca 300
ttattactca ctatgactaa gggtcacaaa tggggtacgt tgatggagag 350
tgatttgtta agagactaca gagggaggac agactaccaa gaggggggcc 400
aggaaagctc ctctgacgag gtggtattc agcccaaact ggaagaatga 450
gaaagagcta gccagccatc agaatagtcc agaagagatg gggagcacta 500
cactcactac actttggcct gagaaaatag catgggattg gaggagctg 550
ggggaacacc acttctgccg acctgggcag gaggcattga gggcttgaga 600
aagggcaatg gcagtagcag tagaaaggac agggtaggac cagggactt 650
gcaggtggaa tcattaggtc ttatcaacag atatggcaa gcaaagccag 700

gggagaattg atggtaatgc tgaggtttgg agccaggcta gatgggacag 750 tggtgggtga tgcaaaggaa agaggtcagg aagcagggcc agacgtgggg 800 agaaggtgtg ggggtttggt ttccatcttg ccgagtctgc cggaatgtgg 850 atgggaagac caagaggagg agcaaggggc agaggggaag ggaatcttaa 900 agaagtcctg gatgccacac tcttcttcct tcctcctctt ccctctcctc 950 agaggtetea etegtggtte tteattteet geeetgeete eateteetet 1000 gggtgctggg aaagtggagg attagctgaa gttttgcttc tcggggcctg 1050 tctgaatctc cattgctttc tgggaggaca taattcacct gtcctagctt 1100 cttatcatct tacatttccc tgtagccact gggacatatg tggtgttcct 1150 tcctagctcc tgtctcctcc tcatgccttt gctgggtatg ggcatgttag 1200 ggggaaggtc attgctgtca gaggggcact gactttctaa tggtgttacc 1250 caaggtgaat gttggagaca cagtcgcgat gctgcccaag tcccggcgag 1300 ccctaactat ccaggagatc gctgcgctgg ccaggtcctc cctgcatggt 1350 atgcagcccc tcccatgttt ctggccactt tgtcctttct cctcccgttt 1400 gcacatccct ttggaactgt ttcctgtgag tacatgctgg ggtctcccct 1450 ttcttccctt gctcaggtga atctcagccc cttctcccac ccaaaggttc 1500 acatggatcc taactactgc caccetteca cetecetgea cetgtgetee 1550 ctggcctggt cctttaccag gcttctccac cctcccctat ctccaggtat 1600 ttcccaggtg gtgaaggacc acgtgaccaa gcctaccgcc atggcccagg 1650 gccgagtggc tcacctcatt gagtggaagg gctggagcaa gccgagtgac 1700 tcacctgctg ccctggaatc agccttttcc tcctattcag acctcagcga 1750 gggcgaacaa gaggctcgct ttgcagcagg agtggctgag cagtttgcca 1800 tcgcggaagc caagctccga gcatggtctt cggtggatgg cgaggactcc 1850 actgatgact cctatgatga ggactttgct gggggaatgg acacagacat 1900 ggctgggcag ctgcccctgg ggccgcacct ccaggacctg ttcaccggcc 1950 accggttctc ccggcctgtg cgccagggct ccgtggagcc tgagagcgac 2000 tgctcacaga ccgtgtcccc agacaccctg tgctctagtc tgtgcagcct 2050 ggaggatggg ttgttgggct ccccggcccg gctggcctcc cagctgctgg 2100 gcgatgagct gcttctcgcc aaactgcccc ccagccggga aagtgccttc 2150

cgcagcctgg gcccactgga ggcccaggac tcactctaca actcgcccct 2200 cacagagtee tgeettteee eegeggagga ggageeagee eeetgeaagg 2250 actgccagec actetgeeca ecaetaaegg geagetggga aeggeagegg 2300 caagcctctg acctggcctc ttctggggtg gtgtccttag atgaggatga 2350 ggcagagcca gaggaacagt gacccacatc atgcctggca gtggcatgca 2400 tcccccggct gctgccaggg gcagagcctc tgtgcccaag tgtgggctca 2450 aggeteceag cagageteca cageetagag ggeteetggg agegeteget 2500 tctccgttgt gtgttttgca tgaaagtgtt tggagaggag gcaggggctg 2550 ggctgggggc gcatgtcctg ccccactcc cggggcttgc cgggggttgc 2600 ccggggcctc tggggcatgg ctacagctgt ggcagacagt gatgttcatg 2650 ttcttaaaat gccacacaca catttcctcc tcggataatg tgaaccacta 2700 agggggttgt gactgggctg tgtgagggtg gggtgggagg gggcccagca 2750 acceccace etececatge etetetete tetgettte tteteaette 2800 cgagtccatg tgcagtgctt gatagaatca ccccacctg gaggggctgg 2850 ctcctgccct cccggagcct atgggttgag ccgtccctca agggcccctg 2900 cccagctggg ctcgtgctgt gcttcattca cctctccatc gtctctaaat 2950 cttcctcttt tttcctaaag acagaaggtt tttggtctgt tttttcagtc 3000 ggatcttctc ttctctggga ggctttggaa tgatgaaagc atgtaccctc 3050 caccetttte etggeecet aatggggeet gggeeettte ceaaccete 3100 ctaggatgtg cgggcagtgt gctggcgcct cacagccagc cgggctgccc 3150 attcacgcag agctctctga gcgggaggtg gaagaaagga tggctctggt 3200 tgccacagag ctgggacttc atgttcttct agagagggcc acaagagggc 3250 cacaggggtg gccgggagtt gtcagctgat gcctgctgag aggcaggaat 3300 tgtgccagtg agtgacagtc atgagggagt gtctcttctt ggggaggaaa 3350 gaaggtagag cctttctgtc tgaatgaaag gccaaggcta cagtacaggg 3400 ccccgcccca gccagggtgt taatgcccac gtagtggagg cctctggcag 3450 atcctgcatt ccaaggtcac tggactgtac gtttttatgg ttgtgggaag 3500 ggtgggtggc tttagaatta agggccttgt aggctttggc aggtaagagg 3550 gcccaaggta agaacgagag ccaacgggca caagcattct atatataagt 3600

ggctcattag gtgtttattt tgttctattt aagaatttgt tttattaaat 3650 taatataaaa atctttgtaa atctctaaaa 3680

<210> 33 <211> 335

<212> PRT

<213> Homo sapiens

<400> 33

Met Phe Leu Ala Thr Leu Ser Phe Leu Leu Pro Phe Ala His Pro 1 5 10 15

Phe Gly Thr Val Ser Cys Glu Tyr Met Leu Gly Ser Pro Leu Ser 20 25 30

Ser Leu Ala Gln Val Asn Leu Ser Pro Phe Ser His Pro Lys Val
35 40 45

His Met Asp Pro Asn Tyr Cys His Pro Ser Thr Ser Leu His Leu 50 55 60

Cys Ser Leu Ala Trp Ser Phe Thr Arg Leu Leu His Pro Pro Leu 65 70 75

Ser Pro Gly Ile Ser Gln Val Val Lys Asp His Val Thr Lys Pro 80 85 90

Thr Ala Met Ala Gln Gly Arg Val Ala His Leu Ile Glu Trp Lys 95 100 105

Gly Trp Ser Lys Pro Ser Asp Ser Pro Ala Ala Leu Glu Ser Ala 110 115 120

Phe Ser Ser Tyr Ser Asp Leu Ser Glu Gly Glu Gln Glu Ala Arg 125 130 135

Phe Ala Ala Gly Val Ala Glu Gln Phe Ala Ile Ala Glu Ala Lys 140 145 150

Leu Arg Ala Trp Ser Ser Val Asp Gly Glu Asp Ser Thr Asp Asp 155 160 165

Ser Tyr Asp Glu Asp Phe Ala Gly Gly Met Asp Thr Asp Met Ala 170 175 180

Gly Gln Leu Pro Leu Gly Pro His Leu Gln Asp Leu Phe Thr Gly
185 190 195

His Arg Phe Ser Arg Pro Val Arg Gln Gly Ser Val Glu Pro Glu 200 205 210

Ser Asp Cys Ser Gln Thr Val Ser Pro Asp Thr Leu Cys Ser Ser 215 220 225

Leu Cys Ser Leu Glu Asp Gly Leu Leu Gly Ser Pro Ala Arg Leu 230 235 240

```
Ala Ser Gln Leu Leu Gly Asp Glu Leu Leu Leu Ala Lys Leu Pro
Pro Ser Arg Glu Ser Ala Phe Arg Ser Leu Gly Pro Leu Glu Ala
Gln Asp Ser Leu Tyr Asn Ser Pro Leu Thr Glu Ser Cys Leu Ser
Pro Ala Glu Glu Pro Ala Pro Cys Lys Asp Cys Gln Pro Leu
                 290
Cys Pro Pro Leu Thr Gly Ser Trp Glu Arg Gln Arg Gln Ala Ser
                 305
Asp Leu Ala Ser Ser Gly Val Val Ser Leu Asp Glu Asp Glu Ala
                 320
                                     325
Glu Pro Glu Glu Gln
                 335
<210> 34
<211> 25
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-25
<223> Synthetic construct
<400> 34
tgtcctttgt cccagacttc tgtcc 25
<210> 35
<211> 50
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-50
<223> Synthetic construct.
<400> 35
ctggatgcta atgtgtccag taaatgatcc ccttatcccg tcgcgatgct 50
<210> 36
<211> 25
<212> DNA
<213> Artificial
<220>
<221> Artificial sequence
<222> 1-25
<223> Synthetic construct.
<400> 36
```

```
ttccactcaa tgaggtgagc cactc 25
<210> 37
<211> 23
<212> DNA
<213> Artificial
<220>
<221> Artificial sequence
<222> 1-23
<223> Synthetic construct.
<400> 37
 ggcgagccct aactatccag gag 23
<210> 38
<211> 39
<212> DNA
<213> Artificial
<220>
<221> Artificial sequence
<222> 1-39
<223> Synthetic construct.
 ggagatcgct gcgctggcca ggtcctccct gcatggtat 39
<210> 39
<211> 22
<212> DNA
<213> Artificial
<220>
<221> Artificial sequence
<222> 1-22
<223> Synthetic construct.
<400> 39
ctgctgcaaa gcgagcctct tg 22
<210> 40
<211> 2084
<212> DNA
<213> Homo sapiens
<400> 40
 ggttcctggg cgctctgtta cacaagcaag atacagccag ccccacctaa 50
 ttttgtttcc ctggcaccct cctgctcagt gcgacattgt cacacttaac 100
ccatctgttt tctctaatgc acgacagatt cctttcagac aggacaactg 150
 tgatatttca gttcctgatt gtaaatacct cctaagcctg aagcttctgt 200
tactagccat tgtgagcttc agtttcttca tctgcaaaat gggcataata 250
caatctattc ttgccacatc aagggattgt tattccttta aaaaaaaacc 300
```

aataccaaag aagcctacaa tgttggcctt agccaaaatt ctgttgattt 350 caacgttgtt ttattcactt ctatcgggga gccatggaaa agaaaatcaa 400 gacataaaca caacacagaa cattgcagaa gtttttaaaa caatggaaaa 450 taaacctatt tctttggaaa gtgaagcaaa cttaaactca gataaagaaa 500 atataaccac ctcaaatctc aaggcgagtc attcccctcc tttgaatcta 550 cccaacaaca gccacggaat aacagatttc tccagtaact catcagcaga 600 gcattetttg ggcagtetaa aacceacate taccatttee acaageeete 650 ccttgatcca tagctttgtt tctaaagtgc cttggaatgc acctatagca 700 gatgaagatc ttttgcccat ctcagcacat cccaatgcta cacctgctct 750 gtcttcagaa aacttcactt ggtctttggt caatgacacc gtgaaaactc 800 ctgataacag ttccattaca gttagcatcc tctcttcaga accaacttct 850 ccatctgtga cccccttgat agtggaacca agtggatggc ttaccacaaa 900 cagtgatagc ttcactgggt ttacccctta tcaagaaaaa acaactctac 950 agectacett aaaatteace aataatteaa aactetttee aaataegtea 1000 gatccccaaa aagaaaatag aaatacagga atagtattcg gggccatttt 1050 aggtgctatt ctgggtgtct cattgcttac tcttgtgggc tacttgttgt 1100 gtggaaaaag gaaaacggat tcattttccc atcggcgact ttatgacgac 1150 agaaatgaac cagttctgcg attagacaat gcaccggaac cttatgatgt 1200 gagttttggg aattctagct actacaatcc aactttgaat gattcagcca 1250 tgccagaaag tgaagaaaat gcacgtgatg gcattcctat ggatgacata 1300 cctccacttc gtacttctgt atagaactaa cagcaaaaag gcgttaaaca 1350 gcaagtgtca tctacatcct agccttttga caaattcatc tttcaaaagg 1400 ttacacaaaa ttactgtcac gtggattttg tcaaggagaa tcataaaagc 1450 aggagaccag tagcagaaat gtagacagga tgtatcatcc aaaggttttc 1500 tttcttacaa tttttggcca tcctgaggca tttactaagt agccttaatt 1550 tgtattttag tagtattttc ttagtagaaa atatttgtgg aatcagataa 1600 aactaaaaga tttcaccatt acagccctgc ctcataacta aataataaaa 1650 attattccac caaaaaattc taaaacaatg aagatgactc tttactgctc 1700 tgcctgaagc cctagtacca taattcaaga ttgcattttc ttaaatgaaa 1750

attgaaaggg tgctttttaa agaaaatttg acttaaagct aaaaagagga 1800 catagcccag agtttctgtt attgggaaat tgaggcaata gaaatgacag 1850 acctgtattc tagtacgtta taattttcta gatcagcaca cacatgatca 1900 gcccactgag ttatgaagct gacaatgact gcattcaacg gggccatggc 1950 aggaaagctg accctaccca ggaaagtaat agcttcttta aaagtcttca 2000 aaggttttgg gaattttaac ttgtcttaat atatcttagg cttcaattat 2050 ttgggtgcct taaaaactca atgagaatca tggt 2084

<210> 41 <211> 334 <212> PRT

<213> Homo sapiens <400> 41 Met Leu Ala Leu Ala Lys Ile Leu Leu Ile Ser Thr Leu Phe Tyr Ser Leu Leu Ser Gly Ser His Gly Lys Glu Asn Gln Asp Ile Asn Thr Thr Gln Asn Ile Ala Glu Val Phe Lys Thr Met Glu Asn Lys Pro Ile Ser Leu Glu Ser Glu Ala Asn Leu Asn Ser Asp Lys Glu Asn Ile Thr Thr Ser Asn Leu Lys Ala Ser His Ser Pro Pro Leu Asn Leu Pro Asn Asn Ser His Gly Ile Thr Asp Phe Ser Ser Asn 80 Ser Ser Ala Glu His Ser Leu Gly Ser Leu Lys Pro Thr Ser Thr 95 Ile Ser Thr Ser Pro Pro Leu Ile His Ser Phe Val Ser Lys Val 110 Pro Trp Asn Ala Pro Ile Ala Asp Glu Asp Leu Leu Pro Ile Ser 125 130 Ala His Pro Asn Ala Thr Pro Ala Leu Ser Ser Glu Asn Phe Thr Trp Ser Leu Val Asn Asp Thr Val Lys Thr Pro Asp Asn Ser Ser 165 Ile Thr Val Ser Ile Leu Ser Ser Glu Pro Thr Ser Pro Ser Val 175 Thr Pro Leu Ile Val Glu Pro Ser Gly Trp Leu Thr Thr Asn Ser

190

195

```
Asp Ser Phe Thr Gly Phe Thr Pro Tyr Gln Glu Lys Thr Thr Leu
                200
Gln Pro Thr Leu Lys Phe Thr Asn Asn Ser Lys Leu Phe Pro Asn
                215
Thr Ser Asp Pro Gln Lys Glu Asn Arg Asn Thr Gly Ile Val Phe
Gly Ala Ile Leu Gly Ala Ile Leu Gly Val Ser Leu Leu Thr Leu
Val Gly Tyr Leu Leu Cys Gly Lys Arg Lys Thr Asp Ser Phe Ser
His Arg Arg Leu Tyr Asp Asp Arg Asn Glu Pro Val Leu Arg Leu
                275
                                    280
Asp Asn Ala Pro Glu Pro Tyr Asp Val Ser Phe Gly Asn Ser Ser
                290
                                                         300
                                    295
Tyr Tyr Asn Pro Thr Leu Asn Asp Ser Ala Met Pro Glu Ser Glu
                                                         315
                305
                                    310
Glu Asn Ala Arg Asp Gly Ile Pro Met Asp Asp Ile Pro Pro Leu
                                    325
                                                         330
```

Arg Thr Ser Val

<210> 42 <211> 1594 <212> DNA <213> Homo sapiens

<400> 42
aacaggatct cctcttgcag tctgcagccc aggacgctga ttccagcagc 50
gccttaccgc gcagcccgaa gattcactat ggtgaaaatc gccttcaata 100
cccctaccgc cgtgcaaaag gaggaggcgc ggcaagacgt ggaggccctc 150
ctgagccgca cggtcagaac tcagatactg accggcaagg agctccgagt 200
tgccacccag gaaaaagagg gctcctctgg gagatgtatg cttactctct 250
taggcctttc attcatcttg gcaggactta ttgttggtgg agcctgcatt 300
tacaagtact tcatgcccaa gagcaccatt taccgtggag agatgtct 350
ttttgattct gaggatcctg caaattccct tcgtggagga gagcctaact 400
tcctgcctgt gactgaggag gctgacattc gtgaggatga caacattgca 450
atcattgatg tgcctgtccc cagtttctct gatagtgacc ctgcagcaat 500
tattcatgac tttgaaaagg gaatgactgc ttacctggac ttgttgctgg 550

ggaactgcta tctgatgccc ctcaatactt ctattgttat gcctccaaaa 600 aatctggtag agctctttgg caaactggcg agtggcagat atctgcctca 650 aacttatgtg gttcgagaag acctagttgc tgtggaggaa attcgtgatg 700 ttagtaacct tggcatcttt atttaccaac tttgcaataa cagaaagtcc 750 ttccgccttc gtcgcagaga cctcttgctg ggtttcaaca aacgtgccat 800 tgataaatgc tggaagatta gacacttccc caacgaattt attgttgaga 850 ccaagatctg tcaagagtaa gaggcaacag atagagtgtc cttggtaata 900 agaagtcaga gatttacaat atgactttaa cattaaggtt tatgggatac 950 tcaagatatt tactcatgca tttactctat tgcttatgct ttaaaaaaaag 1000 gaaaaaaaa aaaactacta accactgcaa gctcttgtca aattttagtt 1050 taattggcat tgcttgtttt ttgaaactga aattacatga gtttcatttt 1100 ttctttgcat ttatagggtt tagatttctg aaagcagcat gaatatatca 1150 cctaacatcc tgacaataaa ttccatccgt tgtttttttt gtttgtttgt 1200 tttttctttt cctttaagta agctctttat tcatcttatg gtggagcaat 1250 tttaaaattt gaaatatttt aaattgtttt tgaacttttt gtgtaaaata 1300 tatcagatct caacattgtt ggtttctttt gtttttcatt ttgtacaact 1350 ttcttgaatt tagaaattac atctttgcag ttctgttagg tgctctgtaa 1400 ttaacctgac ttatatgtga acaattttca tgagacagtc atttttaact 1450 aatgcagtga ttctttctca ctactatctg tattgtggaa tgcacaaaat 1500 tgtgtaggtg ctgaatgctg taaggagttt aggttgtatg aattctacaa 1550 

<210> 43

<211> 263

<212> PRT

<213> Homo sapiens

<400> 43

Met Val Lys Ile Ala Phe Asn Thr Pro Thr Ala Val Gln Lys Glu 1 5 10 15

Glu Ala Arg Gln Asp Val Glu Ala Leu Leu Ser Arg Thr Val Arg
20 25 30

Thr Gln Ile Leu Thr Gly Lys Glu Leu Arg Val Ala Thr Gln Glu
35 40 45

Lys Glu Gly Ser Ser Gly Arg Cys Met Leu Thr Leu Leu Gly Leu

50 55 60

Ser Phe Ile Leu Ala Gly Leu Ile Val Gly Gly Ala Cys Ile Tyr
65 70 75

Lys Tyr Phe Met Pro Lys Ser Thr Ile Tyr Arg Gly Glu Met Cys 80 85 90

Phe Phe Asp Ser Glu Asp Pro Ala Asn Ser Leu Arg Gly Glu

Pro Asn Phe Leu Pro Val Thr Glu Glu Ala Asp Ile Arg Glu Asp 110 115 120

Asp Asn Ile Ala Ile Ile Asp Val Pro Val Pro Ser Phe Ser Asp 125 130 135

Ser Asp Pro Ala Ala Ile Ile His Asp Phe Glu Lys Gly Met Thr 140 145 150

Ala Tyr Leu Asp Leu Leu Gly Asn Cys Tyr Leu Met Pro Leu 155 160 165

Asn Thr Ser Ile Val Met Pro Pro Lys Asn Leu Val Glu Leu Phe 170 175 180

Gly Lys Leu Ala Ser Gly Arg Tyr Leu Pro Gln Thr Tyr Val Val
185 190 195

Leu Gly Ile Phe Ile Tyr Gln Leu Cys Asn Asn Arg Lys Ser Phe 215 220 225

Arg Leu Arg Arg Arg Asp Leu Leu Gly Phe Asn Lys Arg Ala 230 235 240

Ile Asp Lys Cys Trp Lys Ile Arg His Phe Pro Asn Glu Phe Ile 245 250 255

Val Glu Thr Lys Ile Cys Gln Glu 260

<210> 44

<211> 24

<212> DNA

<213> Artificial

<220>

<221> Artificial sequence

<222> 1-24

<223> Synthetic construct.

<400> 44

gaaagacacg acacagcagc ttgc 24

<210> 45

```
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Artificial sequence
<222> 1-20
<223> Synthetic construct.
<400> 45
 gggaactgct atctgatgcc 20
<210> 46
<211> 26
<212> DNA
<213> Artificial
<220>
<221> Artificial sequence
<222> 1-26
<223> Synthetic construct.
<400> 46
 caggatetee tettgeagte tgeage 26
<210> 47
<211> 28
<212> DNA
<213> Artificial
<220>
<221> Artificial sequence
<222> 1-28
<223> Synthetic construct.
<400> 47
 cttctcgaac cacataagtt tgaggcag 28
<210> 48
<211> 25
<212> DNA
<213> Artificial
<220>
<221> Artificial sequence
<222> 1-25
<223> Synthetic construct.
<400> 48
 cacgattccc tccacagcaa ctggg 25
<210> 49
<211> 1969
<212> DNA
<213> Homo sapiens
<400> 49
ggaggagga gggcgggcag gcgccagccc agagcagccc cgggcaccag 50
```

cacggactet ctettecage ccaggtgece eccaeteteg etceattegg 100 cgggagcacc cagtcctgta cgccaaggaa ctggtcctgg gggcaccatg 150 gtttcggcgg cagccccag cctcctcatc cttctgttgc tgctgctggg 200 gtctgtgcct gctaccgacg cccgctctgt gcccctgaag gccacgttcc 250 tggaggatgt ggcgggtagt ggggaggccg agggctcgtc ggcctcctcc 300 ccgagcctcc cgccaccctg gaccccggcc ctcagcccca catcgatggg 350 gccccagccc acaaccctgg ggggcccatc acccccacc aacttcctgg 400 atgggatagt ggacttcttc cgccagtacg tgatgctgat tgctgtggtg 450 ggctccctgg cctttctgct gatgttcatc gtctgtgccg cggtcatcac 500 ccggcagaag cagaaggcct cggcctatta cccatcgtcc ttccccaaga 550 agaagtacgt ggaccagagt gaccgggccg ggggcccccg ggccttcagt 600 gaggtccccg acagagcccc cgacagcagg cccgaggaag ccctggattc 650 ctcccggcag ctccaggccg acatcttggc cgccacccag aacctcaagt 700 ccccaccag ggctgcactg ggcggtgggg acggagccag gatggtggag 750 ggcaggggcg cagaggaaga ggagaagggc agccaggagg gggaccagga 800 agtccaggga catggggtcc cagtggagac accagaggcg caggaggagc 850 cgtgctcagg ggtccttgag ggggctgtgg tggccggtga gggccaaggg 900 gagctggaag ggtctctctt gttagcccag gaagcccagg gaccagtggg 950 tccccccgaa agcccctgtg cttgcagcag tgtccacccc agtgtctaac 1000 agtoctcccg ggctgccagc cctgactgtc gggcccccaa gtggtcacct 1050 ccccgtgtat gaaaaggcct tcagccctga ctgcttcctg acactccctc 1100 cttggcctcc ctgtggtgcc aatcccagca tgtgctgatt ctacagcagg 1150 cagaaatgct ggtccccggt gccccggagg aatcttacca agtgccatca 1200 teetteacet cageageece aaagggetae ateetacage acageteece 1250 tgacaaagtg agggagggca cgtgtccctg tgacagccag gataaaacat 1300 cccccaaagt gctgggatta caggcgtgag ccaccgtgcc cggcccaaac 1350 tactttttaa aacagctaca gggtaaaatc ctgcagcacc cactctggaa 1400 aatactgctc ttaattttcc tgaaggtggc cccctgtttc tagttggtcc 1450 aggattaggg atgtggggta tagggcattt aaatcctctc aagcgctctc 1500

<210> 50 <211> 283 <212> PRT <213> Homo sapiens

<400> 50

Met Val Ser Ala Ala Ala Pro Ser Leu Leu Ile Leu Leu Leu Leu 1 5 10 15

Leu Leu Gly Ser Val Pro Ala Thr Asp Ala Arg Ser Val Pro Leu

Lys Ala Thr Phe Leu Glu Asp Val Ala Gly Ser Gly Glu Ala Glu
35 40 45

Gly Ser Ser Ala Ser Ser Pro Ser Leu Pro Pro Pro Trp Thr Pro
50 55 60

Ala Leu Ser Pro Thr Ser Met Gly Pro Gln Pro Thr Thr Leu Gly
65 70 75

Gly Pro Ser Pro Pro Thr Asn Phe Leu Asp Gly Ile Val Asp Phe 80 85 90

Phe Arg Gln Tyr Val Met Leu Ile Ala Val Val Gly Ser Leu Ala
95 100 105

Phe Leu Leu Met Phe Ile Val Cys Ala Ala Val Ile Thr Arg Gln 110 115 120

Lys Gln Lys Ala Ser Ala Tyr Tyr Pro Ser Ser Phe Pro Lys Lys 125 130 135

Lys Tyr Val Asp Gln Ser Asp Arg Ala Gly Gly Pro Arg Ala Phe
140 145 150

Ser Glu Val Pro Asp Arg Ala Pro Asp Ser Arg Pro Glu Glu Ala 155 160 165

```
Leu Asp Ser Ser Arg Gln Leu Gln Ala Asp Ile Leu Ala Ala Thr
                170
                                    175
Gln Asn Leu Lys Ser Pro Thr Arg Ala Ala Leu Gly Gly Gly Asp
Gly Ala Arg Met Val Glu Gly Arg Gly Ala Glu Glu Glu Lys
Gly Ser Gln Glu Gly Asp Gln Glu Val Gln Gly His Gly Val Pro
                                                        225
Val Glu Thr Pro Glu Ala Gln Glu Glu Pro Cys Ser Gly Val Leu
                230
                                    235
                                                        240
Glu Gly Ala Val Val Ala Gly Glu Gly Gln Gly Glu Leu Glu Gly
                245
                                    250
                                                        255
Ser Leu Leu Ala Gln Glu Ala Gln Gly Pro Val Gly Pro Pro
                260
                                    265
                                                        270
Glu Ser Pro Cys Ala Cys Ser Ser Val His Pro Ser Val
```

Glu Ser Pro Cys Ala Cys Ser Ser Val His Pro Ser Val 275 280

<210> 51 <211> 1734 <212> DNA <213> Homo sapiens

<400> 51
 gtggactctg agaagcccag gcagttgagg acaggagaa gaaggctgca 50
 gacccagagg gagggagac agggagtcgg aaggaggagg acagaggagg 100
 gcacagagac gcagagcaag ggcggcaagg aggagaccct ggtgggagga 150
 agacactctg gagagagag gggctgggca gagatgaagt tccaggggcc 200
 cctggcctgc ctcctgctgg ccctctgcct gggcagtggg gaggctggcc 250
 ccctgcagag cggagagaa agcactggga caaatattgg ggaggccctt 300
 ggacatggcc tgggagacgc cctgagcgaa ggggtgggaa aggccattgg 350
 caaagaggcc ggaggggcag ctggctctaa agtcagtgag gcccttggcc 400
 aagggaccag agaagcagt ggcactggag tcaggcaggt tccaggcttt 450
 ggcgcagcag atgctttggg caacagggtc ggggaagcag cccatgctct 500
 gggaaacact gggcacgaga ttggcagaca ggcagaagat gtcattcgac 550
 acggagcaga tgctgccgc ggctcctggc agggggtgcc tggccacagt 600
 ggtgcttggg aaacttctgg aggccatggc atctttggct ctcaaggttgg 650

ccttggaggc cagggccagg gcaatcctgg aggtctgggg actccgtggg 700

tccacggata ccccggaaac tcagcaggca gctttggaat qaatcctcag 750 ggagctccct ggggtcaagg aggcaatgga gggccaccaa actttgggac 800 caacactcag ggagctgtgg cccagcctgg ctatggttca gtgagagcca 850 gcaaccagaa tgaagggtgc acgaatcccc caccatctgg ctcaggtgga 900 ggctccagca actctggggg aggcagcggc tcacagtcgg gcagcagtgg 950 cagtggcagc aatggtgaca acaacaatgg cagcagcagt ggtggcagca 1000 gcagtggcag cagcagtggc agcagcagtg gcggcagcag tggcggcagc 1050 agtggtggca gcagtggcaa cagtggtggc agcagaggtg acagcggcag 1100 tgagtcctcc tggggatcca gcaccqqctc ctcctccqqc aaccacqqtq 1150 ggagcggcgg aggaaatgga cataaacccg ggtgtgaaaa gccagggaat 1200 gaagcccgcg ggagcgggga atctgggatt cagggcttca gaggacaggg 1250 agtttccagc aacatgaggg aaataagcaa agagggcaat cgcctccttg 1300 gaggctctgg agacaattat cgggggcaag ggtcgagctg gggcagtgga 1350 ggaggtgacg ctgttggtgg agtcaatact gtgaactctg agacgtctcc 1400 tgggatgttt aactttgaca ctttctggaa gaattttaaa tccaagctgg 1450 gtttcatcaa ctgggatgcc ataaacaagg accagagaag ctctcgcatc 1500 ccgtgacctc cagacaagga gccaccagat tggatgggag cccccacact 1550 ccctccttaa aacaccaccc tctcatcact aatctcagcc cttgcccttg 1600 aaaaaaaaa aaaaaaaaa aaaaaaaaa aaaa 1734

```
<210> 52
```

Ala Leu Ser Glu Gly Val Gly Lys Ala Ile Gly Lys Glu Ala Gly

<sup>&</sup>lt;211> 440

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 52

Met Lys Phe Gln Gly Pro Leu Ala Cys Leu Leu Leu Ala Leu Cys 1 5 10 15

Leu Gly Ser Gly Glu Ala Gly Pro Leu Gln Ser Gly Glu Glu Ser 20 25 30

				50					55					60
Gly	Ala	Ala	Gly	Ser 65	Lys	Val	Ser	Glu	Ala 70	Leu	Gly	Gln	Gly	Thr 75
Arg	Glu	Ala	Val	Gly 80	Thr	Gly	Val	Arg	Gln 85	Val	Pro	Gly	Phe	Gly 90
Ala	Ala	Asp	Ala	Leu 95	Gly	Asn	Arg	Val	Gly 100	Glu	Ala	Ala	His	Ala 105
Leu	Gly	Asn	Thr	Gly 110	His	Glu	Ile	Gly	Arg 115	Gln	Ala	Glu	Asp	Val 120
Ile	Arg	His	Gly	Ala 125	Asp	Ala	Val	Arg	Gly 130	Ser	Trp	Gln	Gly	Val 135
Pro	Gly	His	Ser	Gly 140	Ala	Trp	Glu	Thr	Ser 145	Gly	Gly	His	Gly	Ile 150
Phe	Gly	Ser	Gln	Gly 155	Gly	Leu	Gly	Gly	Gln 160	Gly	Gln	Gly	Asn	Pro 165
Gly	Gly	Leu	Gly	Thr 170	Pro	Trp	Val	His	Gly 175	Tyr	Pro	Gly	Asn	Ser 180
Ala	Gly	Ser	Phe	Gly 185	Met	Asn	Pro	Gln	Gly 190	Ala	Pro	Trp	Gly	Gln 195
Gly	Gly	Asn	Gly	Gly 200	Pro	Pro	Asn	Phe	Gly 205	Thr	Asn	Thr	Gln	Gly 210
Ala	Val	Ala	Gln	Pro 215	Gly	Tyr	Gly	Ser	Val 220	Arg	Ala	Ser	Asn	Gln 225
Asn	Glu	Gly	Cys	Thr 230	Asn	Pro	Pro	Pro	Ser 235	Gly	Ser	Gly	Gly	Gly 240
Ser	Ser	Asn	Ser	Gly 245	Gly	Gly	Ser	Gly	Ser 250	Gln	Ser	Gly	Ser	Ser 255
Gly	Ser	Gly	Ser	Asn 260	Gly	Asp	Asn	Asn	Asn 265	Gly	Ser	Ser	Ser	Gly 270
Gly	Ser	Ser	Ser	Gly 275	Ser	Ser	Ser	Gly	Ser 280	Ser	Ser	Gly	Gly	Ser 285
Ser	Gly	Gly	Ser	Ser 290	Gly	Gly	Ser	Ser	Gly 295	Asn	Ser	Gly	Gly	Ser 300
Arg	Gly	Asp	Ser	Gly 305	Ser	Glu	Ser	Ser	Trp 310	Gly	Ser	Ser	Thr	Gly 315
Ser	Ser	Ser	Gly	Asn 320	His	Gly	Gly	Ser	Gly 325	Gly	Gly	Asn	Gly	His 330
Lys	Pro	Gly	Cys	Glu 335	Lys	Pro	Gly	Asn	Glu 340	Ala	Arg	Gly	Ser	Gly 345

```
Glu Ser Gly Ile Gln Gly Phe Arg Gly Gln Gly Val Ser Ser Asn 360

Met Arg Glu Ile Ser Lys Glu Gly Asn Arg Leu Leu Gly Gly Ser 375

Gly Asp Asn Tyr Arg Gly Gln Gly Ser Ser Trp Gly Ser Gly 390

Gly Asp Ala Val Gly Gly Val Asn Thr Val Asn Ser Glu Thr Ser 405

Pro Gly Met Phe Asn Phe Asp Thr Phe Trp Lys Asn Phe Lys Ser 420

Lys Leu Gly Phe Ile Asn Trp Asp Ala Ile Asn Lys Asp Gln Arg 435
```

Ser Ser Arg Ile Pro 440

<210> 53 <211> 3580 <212> DNA <213> Homo sapiens

<400> 53 gaccggtccc tccggtcctg gatgtgcgga ctctgctgca gcgagggctg 50 caggecegee gggeggtget caeegtgeee tggetggtgg agtttetete 100 ctttgctgac catgttgttc ccttgctgga atattaccgg gacatcttca 150 ctctcctgct gcgcctgcac cggagcttgg tgttgtcgca ggagagtgag 200 gggaagatgt gtttcctgaa caagetgetg ctacttgctg tcctgggctg 250 gcttttccag attcccacag tccctgagga cttgttcttt ctggaagagg 300 gtccctcata tgcctttgag gtggacacag tagccccaga gcatggcttg 350 gacaatgcgc ctgtggtgga ccagcagctg ctctacacct gctgccccta 400 catcggagag ctccggaaac tgctcgcttc gtgggtgtca ggcagtagtg 450 gacggagtgg gggcttcatg aggaaaatca ccccaccac taccaccagc 500 ctgggagece ageetteeca gaccagecag gggetgeagg cacagetege 550 ccaggeettt ttccacaacc ageegeete ettgegeegg accgtagagt 600 tcgtggcaga aagaattgga tcaaactgtg tcaaacatat caaggctaca 650 ctggtggcag atctggtgcg ccaggcagag tcacttctcc aagagcagct 700 ggtgacacag ggagaggaag ggggagaccc agcccagctg ttggagatct 750 tgtgttccca gctgtgccct cacggggccc aggcattggc cctggggcgg 800

gagttctgtc aaaggaagag ccctggggct gtgcgggcgc tgcttccaga 850 ggagaccccg gcagccgttc tgagcagtgc agagaacatt gctgtggggc 900 ttgcaacaga gaaagcctgt gcttggctgt cagccaacat cacagcactg 950 atcaggaggg aggtgaaagc agcagtgagt cgcacacttc gagcccaggg 1000 tcctgaacct gctgcccggg gggagcggag gggctgctcc cgcgcctgac 1050 gtgctctcct tggccgtggg gccacgggac cctgacgagg gagtctcccc 1100 agagcatctg gaacagctcc taggccagct gggccagacg ctgcggtgcc 1150 gccagttcct gtgcccacct gctgagcagc atctggcaaa gtgctctgtg 1200 gagttagett cectectegt tgeagateaa attectatee tagggeecee 1250 ggcacagtac aggctggaga gagggcaggc tcgaaggctt ctgcacatgc 1300 tgctttcctt gtggaaggaa gactttcagg ggccggttcc gctgcagctg 1350 ctgctgagcc caagaaatgt ggggcttctg gcagacacaa ggccaaggga 1400 gtgggacttg ctgctattct tgctacggga gctggtggag aagggtctga 1450 tgggacggat ggagatagag gcctgcctgg gcagcctcca ccaggcccag 1500 tggccagggg actttgctga agaattagca acactgtcta atctgtttct 1550 agccgagccc cacctgccag aaccccagct aagagcctgt gagttggtgc 1600 agccaaaccg gggcactgtg ctggcccaga gctagggctg agaagtggcc 1650 ctgccttggg cattgcacca gaaccctgga cccccgcctc acgaggaggc 1700 ccaagtgccc aatgcagacc ctcactggtt ggggtgtagc tgggtctaca 1750 gtcagacttc ctgctctaag ggtgtcactg cctggcatcc caccacgcga 1800 atcctagagg aaggagagtt ggcctgattt gggattatgg cagaaaagtc 1850 cagagatgcc agtcctggag tagaagaggt ggtgtttgtt tatctcttgg 1900 atactaaatg aaatgaggtg tgtgggcttg tcaacacaga attcaagcct 1950 catttgctat cccagcatct cttaaaactt tgtagtcttg gaattcatga 2000 cagaggcaaa tgactcctgc ttaacttatg aagaaagtta aaacatgaat 2050 cttgggagtc tacattttct tatcaccagg agctggactg ccatctcctt 2100 ataaatgcct aacacaggcc gggtctggtg gctcatgcct gtaatcccag 2150 cactttgaga ggcctgaggt cggcggactg cctgaggtca ggaattcaag 2200 accagectgg ccaacatgge aaaaccecat etetactaaa aataaaaaaa 2250

```
ttattagctg ggcatggtgg tgtgtgcctg taatcccagc tactcaggag 2300
gatgaggcag gagacctgct tgaacctgga ggtggaggtt gcagtgagcc 2350
gaggtcgcac cactgcactc cagtctgggt aacagagcga gactttctag 2400
aaaaagccta acaaacagat aaggtaggac tcaaccaact gaaacctgac 2450
tttccccctg taccttcagc ccctgtgcag gtagtaacct cttgagacct 2500
ctccctgacc agggaccaag cacagggcat ttagagcttt ttagaataaa 2550
ctggttttct ttaaaaaaaa aaaaaaaaa agggcggccg ccctttttt 2600
ttttattaaa attctcccca cacgatggct cctgcaatct gccacagctc 2700
tggggcgtgt cctgtaggga aaggccctgt tttccctgag gcggggctgg 2750
gcttgtccat gggtccgcgg agctggccgt gcttggcgcc ctggcgtgtg 2800
tctagctgct tcttgccggg cacagagctg cggggtctgg gggcaccggg 2850
agctaagagc aggctctggt gcaggggtgg aggcctgtct cttaaccgac 2900
accctgaggt gctcctgaga tgctgggtcc accctgagtg gcacggggag 2950
cagctgtggc cggtgctcct tcytaggcca gtcctgggga aactaagctc 3000
gggcccttct ttgcaaagac cgaggatggg gtgggtgtgg gggactcatg 3050
gggaatggcc tgaggagcta cgtgtgaaga gggcgccggt ttgttggctg 3100
cagcggcctg gagcgcctct ctcctgagcc tcagtttccc tttccgtcta 3150
atgaagaaca tgccgtctcg gtgtctcagg gctattagga cttgccctca 3200
ggaagtggcc ttggacgagc gtcatgttat tttcacaact gtcctgcgac 3250
gttggcctgg gcacgtcatg gaatggccca tgtccctctg ctgcgtggac 3300
gtcgcggtcg ggagtgcgca gccagaggcg gggccagacg tgcgcctggg 3350
ggtgagggga ggcgccccgg gagggcctca caggaagttg ggctcccgca 3400
ccaccaggca gggcgggctc ccgccgccgc cgccgccacc accgtccagg 3450
ggccggtaga caaagtggaa gtcgcgcttg ggctcgctgc gcagcaggta 3500
gcccttgatg cagtgcggca gcgcgtcgtc cgccagctgg aagcagcgcc 3550
cgtccaccag cacgaacagc cggtgcgcct 3580
```

<sup>&</sup>lt;210> 54

<sup>&</sup>lt;211> 280

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<400> 54 Met Cys Phe Leu Asn Lys Leu Leu Leu Leu Ala Val Leu Gly Trp Leu Phe Gln Ile Pro Thr Val Pro Glu Asp Leu Phe Phe Leu Glu Glu Gly Pro Ser Tyr Ala Phe Glu Val Asp Thr Val Ala Pro Glu His Gly Leu Asp Asn Ala Pro Val Val Asp Gln Gln Leu Leu Tyr Thr Cys Cys Pro Tyr Ile Gly Glu Leu Arg Lys Leu Leu Ala Ser Trp Val Ser Gly Ser Ser Gly Arg Ser Gly Gly Phe Met Arg Lys Ile Thr Pro Thr Thr Thr Ser Leu Gly Ala Gln Pro Ser Gln 95 Thr Ser Gln Gly Leu Gln Ala Gln Leu Ala Gln Ala Phe Phe His 110 Asn Gln Pro Pro Ser Leu Arg Arg Thr Val Glu Phe Val Ala Glu Arg Ile Gly Ser Asn Cys Val Lys His Ile Lys Ala Thr Leu Val 140 Ala Asp Leu Val Arg Gln Ala Glu Ser Leu Leu Gln Glu Gln Leu Val Thr Gln Gly Glu Glu Gly Gly Asp Pro Ala Gln Leu Leu Glu 170 Ile Leu Cys Ser Gln Leu Cys Pro His Gly Ala Gln Ala Leu Ala Leu Gly Arg Glu Phe Cys Gln Arg Lys Ser Pro Gly Ala Val Arg 200 Ala Leu Leu Pro Glu Glu Thr Pro Ala Ala Val Leu Ser Ser Ala Glu Asn Ile Ala Val Gly Leu Ala Thr Glu Lys Ala Cys Ala Trp 230 240 Leu Ser Ala Asn Ile Thr Ala Leu Ile Arg Arg Glu Val Lys Ala 245 Ala Val Ser Arg Thr Leu Arg Ala Gln Gly Pro Glu Pro Ala Ala 260 270 Arg Gly Glu Arg Arg Gly Cys Ser Arg Ala

```
<210> 55
<211> 2401
<212> DNA
<213> Homo sapiens
```

<400> 55

tcccttgaca ggtctggtgg ctggttcggg gtctactgaa ggctgtcttg 50 atcaggaaac tgaagactct ctgcttttgc cacagcagtt cctgcagctt 100 ccttgaggtg tgaacccaca tccctgcccc cagggccacc tgcaggacgc 150 cgacacctac ccctcagcag acgccggaga gaaatgagta gcaacaaaga 200 gcagcggtca gcagtgttcg tgatcctctt tgccctcatc accatcctca 250 tcctctacag ctccaacagt gccaatgagg tcttccatta cggctccctg 300 cggggccgta gccgccgacc tgtcaacctc aagaagtgga gcatcactga 350 cggctatgtc cccattctcg gcaacaagac actgccctct cggtgccacc 400 agtgtgtgat tgtcagcagc tccagccacc tgctgggcac caagctgggc 450 cctgagatcg agcgggctga gtgtacaatc cgcatgaatg atgcacccac 500 cactggctac tcagctgatg tgggcaacaa gaccacctac cgcgtcgtgg 550 cccattccag tgtgttccgc gtgctgagga ggccccagga gtttgtcaac 600 cggacccctg aaaccgtgtt catcttctgg gggcccccga gcaagatgca 650 gaagccccag ggcagcctcg tgcgtgtgat ccagcgagcg ggcctggtgt 700 tececaacat ggaageatat geegtetete eeggeegeat geggeaattt 750 gacgacctct tccggggtga gacgggcaag gacagggaga agtctcattc 800 gtggttgagc acaggctggt ttaccatggt gatcgcggtg gagttgtgtg 850 accacgtgca tgtctatggc atggtccccc ccaactactg cagccagcgg 900 ccccgcctcc agcgcatgcc ctaccactac tacgagccca aggggccgga 950 cgaatgtgtc acctacatcc agaatgagca cagtcgcaag ggcaaccacc 1000 accgcttcat caccgagaaa agggtcttct catcgtgggc ccagctgtat 1050 ggcatcacct tctcccaccc ctcctggacc taggccaccc agcctgtggg 1100 acctcaggag ggtcagagga gaagcagcct ccgcccagcc gctaggccag 1150 ggaccatctt ctggccaatc aaggettget ggagtgtete ccagccaatc 1200 agggccttga ggaggatgta tcctccagcc aatcagggcc tggggaatct 1250 gttggcgaat cagggatttg ggagtctatg tggttaatca ggggtgtctt 1300

```
tcttgtgcag tcagggtctg cgcacagtca atcagggtag agggggtatt 1350
tctgagtcaa tctgaggcta aggacatgtc ctttcccatg aggccttggt 1400
tcagagcccc aggaatggac cccccaatca ctccccactc tgctgggata 1450
atggggtcct gtcccaagga gctgggaact tggtgttgcc ccctcaattt 1500
ccagcaccag aaagagagat tgtgtggggg tagaagctgt ctggaggccc 1550
ggccagagaa tttgtggggt tgtggaggtt gtgggggggg tggggaggtc 1600
ccagaggtgg gaggctggca tccaggtctt ggctctgccc tgagaccttg 1650
gacaaaccct tccccctctc tgggcaccct tctgcccaca ccagtttcca 1700
gtgcggagtc tgagaccett tecacetece etacaagtge cetegggtet 1750
gtectecceq tetqqaeeet eccaqeeact atecettqet qqaaqqetca 1800
gctctttggg gggtctgggg tgacctcccc acctcctgga aaactttagg 1850
gtatttttgc gcaaactcct tcagggttgg gggactctga aggaaacggg 1900
acaaaacctt aagctgtttt cttagcccct cagccagctg ccattagctt 1950
ggctcttaaa gggccaggcc tecttttctg cectetagca gggaggtttt 2000
ccaactgttg gaggcgcctt tggggctgcc cctttgtctg gagtcactgg 2050
gggcttccga gggtctccct cgaccctctg tcgtcctggg atggctgtcg 2100
ggagctgtat cacctgggtt ctgtcccctg gctctgtatc aggcacttta 2150
ttaaagctgg gcctcagtgg ggtgtgtttg tctcctgctc ttctggagcc 2200
tggaaggaaa gggcttcagg aggaggctqt gaggctggag ggaccagatg 2250
gaggaggcca gcagctagcc attgcacact ggggtgatgg gtggggggg 2300
tgactgcccc agacttggtt ttgtaatgat ttgtacagga ataaacacac 2350
a 2401
```

<210> 56

<211> 299

<212> PRT

<213> Homo sapiens

<400> 56

Met Ser Ser Asn Lys Glu Gln Arg Ser Ala Val Phe Val Ile Leu 1 5 10 15

Phe Ala Leu Ile Thr Ile Leu Ile Leu Tyr Ser Ser Asn Ser Ala 20 25 30

```
Asn Glu Val Phe His Tyr Gly Ser Leu Arg Gly Arg Ser Arg Arg
Pro Val Asn Leu Lys Lys Trp Ser Ile Thr Asp Gly Tyr Val Pro
Ile Leu Gly Asn Lys Thr Leu Pro Ser Arg Cys His Gln Cys Val
Ile Val Ser Ser Ser His Leu Leu Gly Thr Lys Leu Gly Pro
Glu Ile Glu Arg Ala Glu Cys Thr Ile Arg Met Asn Asp Ala Pro
Thr Thr Gly Tyr Ser Ala Asp Val Gly Asn Lys Thr Thr Tyr Arg
                                    115
Val Val Ala His Ser Ser Val Phe Arg Val Leu Arg Arg Pro Gln
                125
                                    130
Glu Phe Val Asn Arg Thr Pro Glu Thr Val Phe Ile Phe Trp Gly
Pro Pro Ser Lys Met Gln Lys Pro Gln Gly Ser Leu Val Arg Val
                155
                                                         165
Ile Gln Arg Ala Gly Leu Val Phe Pro Asn Met Glu Ala Tyr Ala
                170
                                    175
Val Ser Pro Gly Arg Met Arg Gln Phe Asp Asp Leu Phe Arg Gly
                185
                                    190
Glu Thr Gly Lys Asp Arg Glu Lys Ser His Ser Trp Leu Ser Thr
                                    205
Gly Trp Phe Thr Met Val Ile Ala Val Glu Leu Cys Asp His Val
                215
                                                         225
His Val Tyr Gly Met Val Pro Pro Asn Tyr Cys Ser Gln Arg Pro
                230
Arg Leu Gln Arg Met Pro Tyr His Tyr Tyr Glu Pro Lys Gly Pro
                245
                                                         255
Asp Glu Cys Val Thr Tyr Ile Gln Asn Glu His Ser Arg Lys Gly
                260
                                    265
Asn His His Arg Phe Ile Thr Glu Lys Arg Val Phe Ser Ser Trp
                275
                                    280
                                                         285
Ala Gln Leu Tyr Gly Ile Thr Phe Ser His Pro Ser Trp Thr
```

290

295

<sup>&</sup>lt;210> 57

<sup>&</sup>lt;211> 4277

<sup>&</sup>lt;212> DNA

<sup>&</sup>lt;213> Homo sapiens

<400> 57 gtttctcata gttggcgtct tctaaaggaa aaacactaaa atgaggaact 50 cagcggaccg ggagcgacgc agcttgaggg aagcatccct agctgttggc 100 gcagaggggc gaggctgaag ccgagtggcc cgaggtgtct gaggggctgg 150 ggcaaaggtg aaagagtttc agaacaagct tcctggaacc catgacccat 200 gaagtettgt egacatttat acceptetgag ggtageaget egaaactaga 250 agaagtggag tgttgccagg gacggcagta tctctttgtg tgaccctggc 300 ggcctatggg acgttggctt cagacctttg tgatacacca tgctgcgtgg 350 gacgatgacg gcgtggagag gaatgaggcc tgaggtcaca ctggcttgcc 400 tcctcctagc cacagcaggc tgctttgctg acttgaacga ggtccctcag 450 gtcaccgtcc agcctgcgtc caccgtccag aagcccggag gcactgtgat 500 cttgggctgc gtggtggaac ctccaaggat gaatgtaacc tggcgcctga 550 atggaaagga gctgaatggc tcggatgatg ctctgggtgt cctcatcacc 600 cacgggaccc tcgtcatcac tgcccttaac aaccacactg tgggacggta 650 ccagtgtgtg gcccggatgc ctgcgggggc tgtggccagc gtgccagcca 700 ctgtgacact agccaatctc caggacttca agttagatgt gcagcacgtg 750 attgaagtgg atgagggaaa cacagcagtc attgcctgcc acctgcctga 800 gagccacccc aaagcccagg tccggtacag cgtcaaacaa gagtggctgg 850 aggcctccag aggtaactac ctgatcatgc cctcagggaa cctccagatt 900 gtgaatgcca gccaggagga cgagggcatg tacaagtgtg cagcctacaa 950 cccagtgacc caggaagtga aaacctccgg ctccagcgac aggctacgtg 1000 tgcgccgctc caccgctgag gctgcccgca tcatctaccc cccagaggcc 1050 caaaccatca tcgtcaccaa aggccagagt ctcattctgg agtgtgtggc 1100 cagtggaatc ccaccccac gggtcacctg ggccaaggat gggtccagtg 1150 tcaccggcta caacaagacg cgcttcctgc tgagcaacct cctcatcgac 1200 accaccageg aggaggacte aggeacetae egetgeatgg eegacaatgg 1250 ggttgggcag cccggggcag cggtcatcct ctacaatgtc caggtgtttg 1300 aaccccctga ggtcaccatg gagctatccc agctggtcat cccctggggc 1350 cagagtgcca agcttacctg tgaggtgcgt gggaaccccc cgccctccgt 1400 gctgtggctg aggaatgctg tgcccctcat ctccagccag cgcctccggc 1450

tctcccgcag ggccctgcgc gtgctcagca tggggcctga ggacgaaggc 1500 gtctaccagt gcatggccga gaacgaggtt gggagcgccc atgccgtagt 1550 ccagctgcgg acctccaggc caagcataac cccaaggcta tggcaggatg 1600 ctgagctggc tactggcaca cctcctgtat caccctccaa actcggcaac 1650 cctgagcaga tgctgagggg gcaaccggcg ctccccagac ccccaacgtc 1700 agtggggcct gcttccccga agtgtccagg agagaagggg cagggggctc 1750 ccgccgagge teccateate eteagetege ecegeacete caagacagae 1800 tcatatgaac tggtgtggcg gcctcggcat gagggcagtg gccgggcgcc 1850 aatcctctac tatgtggtga aacaccgcaa gcaggtcaca aattcctctg 1900 acgattggac catctctggc attccagcca accagcaccg cctgaccctc 1950 accagacttg accccgggag cttgtatgaa gtggagatgg cagcttacaa 2000 ctgtgcggga gagggccaga cagccatggt caccttccga actggacggc 2050 ggcccaaacc cgagatcatg gccagcaaag agcagcagat ccagagagac 2100 gaccetggag ccagtececa gageageage cageeagace aeggeegeet 2150 ctcccccca gaagctcccg acaggcccac catctccacg gcctccgaga 2200 cctcagtgta cgtgacctgg attccccgtg ggaatggtgg gttcccaatc 2250 cagtccttcc gtgtggagta caagaagcta aagaaagtgg gagactggat 2300 tctggccacc agcgccatcc ccccatcgcg gctgtccgtg gagatcacgg 2350 gcctagagaa aggcacctcc tacaagtttc gagtccgggc tctgaacatg 2400 ctgggggaga gcgagcccag cgcccctct cggccctacg tggtgtcggg 2450 ctacagcggt cgcgtgtacg agaggcccgt ggcaggtcct tatatcacct 2500 tcacggatgc ggtcaatgag accaccatca tgctcaagtg gatgtacatc 2550 ccagcaagta acaacaacac cccaatccat ggcttttata tctattatcg 2600 acccacagac agtgacaatg atagtgacta caagaaggat atggtggaag 2650 gggacaagta ctggcactcc atcagccacc tgcagccaga gacctcctac 2700 gacattaaga tgcagtgctt caatgaagga ggggagagcg agttcagcaa 2750 cgtgatgatc tgtgagacca aagctcggaa gtcttctggc cagcctggtc 2800 gactgccacc cccaactctg gccccaccac agccgcccct tcctgaaacc 2850 atagagegge eggtgggeac tggggeeatg gtggeteget ecagegaeet 2900

gccctatctg attgtcgggg tcgtcctggg ctccatcgtt ctcatcatcg 2950 tcaccttcat ccccttctgc ttgtggaggg cctggtctaa gcaaaaacat 3000 acaacagacc tgggttttcc tcgaagtgcc cttccaccct cctgcccgta 3050 tactatggtg ccattgggag gactcccagg ccaccaggcc agtggacagc 3100 cctacctcag tggcatcagt ggacgggcct gtgctaatgg gatccacatg 3150 aataggggct gcccctcggc tgcagtgggc tacccgggca tgaagcccca 3200 gcagcactgc ccaggcgagc ttcagcagca gagtgacacc agcagcctgc 3250 tgaggcagac ccatcttggc aatggatatg acccccaaag tcaccagatc 3300 acgaggggtc ccaagtctag cccggacgag ggctctttct tatacacact 3350 gcccgacgac tccactcacc agctgctgca gccccatcac gactgctgcc 3400 aacgccagga gcagcctgct gctgtgggcc agtcaggggt gaggagagcc 3450 cccgacagtc ctgtcctgga agcagtgtgg gaccctccat ttcactcagg 3500 gcccccatgc tgcttgggcc ttgtgccagt tgaagaggtg gacagtcctg 3550 actcctgcca agtgagtgga ggagactggt gtccccagca ccccgtaggg 3600 gcctacgtag gacaggaacc tggaatgcag ctctccccgg ggccactggt 3650 gcgtgtgtct tttgaaacac cacctctcac aatttaggca gaagctgata 3700 tcccagaaag actatatatt gtttttttt taaaaaaaaa agaagaaaaa 3750 agagacagag aaaattggta tttatttttc tattatagcc atatttatat 3800 atttatgcac ttgtaaataa atgtatatgt tttataattc tggagagaca 3850 taaggagtcc tacccgttga ggttggagag ggaaaataaa gaagctgcca 3900 cctaacagga gtcacccagg aaagcaccgc acaggctggc gcgggacaga 3950 ctcctaacct ggggcctctg cagtggcagg cgaggctgca ggaggcccac 4000 agataagctg gcaagaggaa ggatcccagg cacatggttc atcacgagca 4050 tgagggaaca gcaaggggca cggtatcaca gcctggagac acccacacag 4100 atggctggat ccggtgctac gggaaacatt ttcctaagat gcccatgaga 4150 acagaccaag atgtgtacag cactatgagc attaaaaaac cttccagaat 4200 caataatccg tggcaacata tctctgtaaa aacaaacact gtaacttcta 4250 aataaatgtt tagtcttccc tgtaaaa 4277

<210> 58 <211> 1115

<212> PRT <213> Homo sapiens

<400> 58 Met Leu Arg Gly Thr Met Thr Ala Trp Arg Gly Met Arg Pro Glu Val Thr Leu Ala Cys Leu Leu Leu Ala Thr Ala Gly Cys Phe Ala Asp Leu Asn Glu Val Pro Gln Val Thr Val Gln Pro Ala Ser Thr Val Gln Lys Pro Gly Gly Thr Val Ile Leu Gly Cys Val Val Glu Pro Pro Arg Met Asn Val Thr Trp Arg Leu Asn Gly Lys Glu Leu Asn Gly Ser Asp Asp Ala Leu Gly Val Leu Ile Thr His Gly Thr 80 Leu Val Ile Thr Ala Leu Asn Asn His Thr Val Gly Arg Tyr Gln 95 Cys Val Ala Arg Met Pro Ala Gly Ala Val Ala Ser Val Pro Ala 110 Thr Val Thr Leu Ala Asn Leu Gln Asp Phe Lys Leu Asp Val Gln 125 His Val Ile Glu Val Asp Glu Gly Asn Thr Ala Val Ile Ala Cys His Leu Pro Glu Ser His Pro Lys Ala Gln Val Arg Tyr Ser Val 155 Lys Gln Glu Trp Leu Glu Ala Ser Arg Gly Asn Tyr Leu Ile Met 170 Pro Ser Gly Asn Leu Gln Ile Val Asn Ala Ser Gln Glu Asp Glu 185 Gly Met Tyr Lys Cys Ala Ala Tyr Asn Pro Val Thr Gln Glu Val Lys Thr Ser Gly Ser Ser Asp Arg Leu Arg Val Arg Arg Ser Thr Ala Glu Ala Ala Arg Ile Ile Tyr Pro Pro Glu Ala Gln Thr Ile Ile Val Thr Lys Gly Gln Ser Leu Ile Leu Glu Cys Val Ala Ser Gly Ile Pro Pro Pro Arg Val Thr Trp Ala Lys Asp Gly Ser Ser

Val Thr Gly Tyr Asn Lys Thr Arg Phe Leu Leu Ser Asn Leu Leu Ile Asp Thr Thr Ser Glu Glu Asp Ser Gly Thr Tyr Arg Cys Met Ala Asp Asn Gly Val Gly Gln Pro Gly Ala Ala Val Ile Leu Tyr Asn Val Gln Val Phe Glu Pro Pro Glu Val Thr Met Glu Leu Ser Gln Leu Val Ile Pro Trp Gly Gln Ser Ala Lys Leu Thr Cys Glu Val Arg Gly Asn Pro Pro Pro Ser Val Leu Trp Leu Arg Asn Ala 350 355 Val Pro Leu Ile Ser Ser Gln Arg Leu Arg Leu Ser Arg Ala 365 370 Leu Arg Val Leu Ser Met Gly Pro Glu Asp Glu Gly Val Tyr Gln 380 Cys Met Ala Glu Asn Glu Val Gly Ser Ala His Ala Val Val Gln 395 400 Leu Arg Thr Ser Arg Pro Ser Ile Thr Pro Arg Leu Trp Gln Asp Ala Glu Leu Ala Thr Gly Thr Pro Pro Val Ser Pro Ser Lys Leu 425 Gly Asn Pro Glu Gln Met Leu Arg Gly Gln Pro Ala Leu Pro Arg 445 Pro Pro Thr Ser Val Gly Pro Ala Ser Pro Lys Cys Pro Gly Glu Lys Gly Gln Gly Ala Pro Ala Glu Ala Pro Ile Ile Leu Ser Ser Pro Arg Thr Ser Lys Thr Asp Ser Tyr Glu Leu Val Trp Arg Pro 495 Arg His Glu Gly Ser Gly Arg Ala Pro Ile Leu Tyr Tyr Val Val Lys His Arg Lys Gln Val Thr Asn Ser Ser Asp Asp Trp Thr Ile 525 Ser Gly Ile Pro Ala Asn Gln His Arg Leu Thr Leu Thr Arg Leu Asp Pro Gly Ser Leu Tyr Glu Val Glu Met Ala Ala Tyr Asn Cys 555 Ala Gly Glu Gly Gln Thr Ala Met Val Thr Phe Arg Thr Gly Arg

				560					565					570
Arg	Pro	Lys	Pro	Glu 575	Ile	Met	Ala	Ser	Lys 580	Glu	Gln	Gln	Ile	Gln 585
Arg	Asp	Asp	Pro	Gly 590	Ala	Ser	Pro	Gln	Ser 595	Ser	Ser	Gln	Pro	Asp 600
His	Gly	Arg	Leu	Ser 605	Pro	Pro	Glu	Ala	Pro 610	Asp	Arg	Pro	Thr	Ile 615
Ser	Thr	Ala	Ser	Glu 620	Thr	Ser	Val	Tyr	Val 625	Thr	Trp	Ile	Pro	Arg 630
Gly	Asn	Gly	Gly	Phe 635	Pro	Ile	Gln	Ser	Phe 640	Arg	Val	Glu	Tyr	Lys 645
Lys	Leu	Lys	Lys	Val 650	Gly	Asp	Trp	Ile	Leu 655	Ala	Thr	Ser	Ala	Ile 660
Pro	Pro	Ser	Arg	Leu 665	Ser	Val	Glu	Ile	Thr 670	Gly	Leu	Glu	Lys	Gly 675
Thr	Ser	Tyr	Lys	Phe 680	Arg	Val	Arg	Ala	Leu 685	Asn	Met	Leu	Gly	Glu 690
Ser	Glu	Pro	Ser	Ala 695	Pro	Ser	Arg	Pro	Tyr 700	Val	Val	Ser	Gly	Tyr 705
Ser	Gly	Arg	Val	Tyr 710	Glu	Arg	Pro	Val	Ala 715	Gly	Pro	Tyr	Ile	Thr 720
Phe	Thr	Asp	Ala	Val 725	Asn	Glu	Thr	Thr	Ile 730	Met	Leu	Lys	Trp	Met 735
Tyr	Ile	Pro	Ala	Ser 740	Asn	Asn	Asn	Thr	Pro 745	Ile	His	Gly	Phe	Tyr 750
Ile	Tyr	Tyr	Arg	Pro 755	Thr	Asp	Ser	Asp	Asn 760	Asp	Ser	Asp	Tyr	Lys 765
Lys	Asp	Met	Val	Glu 770	Gly	Asp	Lys	Tyr	Trp 775	His	Ser	Ile	Ser	His 780'
Leu	Gln	Pro	Glu	Thr 785	Ser	Tyr	Asp	Ile	Lys 790	Met	Gln	Cys	Phe	Asn 795
Glu	Gly	Gly	Glu	Ser 800	Glu	Phe	Ser	Asn	Val 805	Met	Ile	Cys	Glu	Thr 810
Lys	Ala	Arg	Lys	Ser 815	Ser	Gly	Gln	Pro	Gly 820	Arg	Leu	Pro	Pro	Pro 825
Thr	Leu	Ala	Pro	Pro 830	Gln	Pro	Pro	Leu	Pro 835	Glu	Thr	Ile	Glu	Arg 840
Pro	Val	Gly	Thr	Gly 845	Ala	Met	Val	Ala	Arg 850	Ser	Ser	Asp	Leu	Pro 855

Tyr Leu Ile Val Gly Val Val Leu Gly Ser Ile Val Leu Ile Ile 860 Val Thr Phe Ile Pro Phe Cys Leu Trp Arg Ala Trp Ser Lys Gln Lys His Thr Thr Asp Leu Gly Phe Pro Arg Ser Ala Leu Pro Pro Ser Cys Pro Tyr Thr Met Val Pro Leu Gly Gly Leu Pro Gly His 905 Gln Ala Ser Gly Gln Pro Tyr Leu Ser Gly Ile Ser Gly Arg Ala Cys Ala Asn Gly Ile His Met Asn Arg Gly Cys Pro Ser Ala Ala 935 940 Val Gly Tyr Pro Gly Met Lys Pro Gln Gln His Cys Pro Gly Glu Leu Gln Gln Ser Asp Thr Ser Ser Leu Leu Arg Gln Thr His 970 Leu Gly Asn Gly Tyr Asp Pro Gln Ser His Gln Ile Thr Arg Gly Pro Lys Ser Ser Pro Asp Glu Gly Ser Phe Leu Tyr Thr Leu Pro Asp Asp Ser Thr His Gln Leu Leu Gln Pro His His Asp Cys Cys 1010 Gln Arg Gln Glu Gln Pro Ala Ala Val Gly Gln Ser Gly Val Arg Arg Ala Pro Asp Ser Pro Val Leu Glu Ala Val Trp Asp Pro Pro Phe His Ser Gly Pro Pro Cys Cys Leu Gly Leu Val Pro Val Glu Glu Val Asp Ser Pro Asp Ser Cys Gln Val Ser Gly Gly Asp Trp 1070 Cys Pro Gln His Pro Val Gly Ala Tyr Val Gly Gln Glu Pro Gly 1090 Met Gln Leu Ser Pro Gly Pro Leu Val Arg Val Ser Phe Glu Thr Pro Pro Leu Thr Ile

1115

<210> 59

<211> 25

<212> DNA

<213> Artificial

```
<220>
<221> Artificial sequence
<222> 1-25
<223> Synthetic construct.
<400> 59
 gggaaacaca gcaqtcattg cctgc 25
<210> 60
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial sequence
<222> 1-24
<223> Synthetic construct.
<400> 60
 gcacacgtag cctqtcqctq gagc 24
<210> 61
<211> 42
<212> DNA
<213> Artificial
<220>
<221> Artificial sequence
<222> 1-42
<223> Synthetic construct.
 caccccaaag cccaggtccg gtacagcgtc aaacaagagt gg 42
<210> 62
<211> 1661
<212> DNA
<213> Homo sapiens
<220>
<221> unsure
<222> 678
<223> unknown base
<400> 62
 cgggaggctg ggtcgtcatg atccggaccc cattgtcggc ctctgcccat 50
 cgcctgctcc tcccaggctc ccgcggccga cccccgcgca acatgcagcc 100
 cacgggccgc gagggttccc gcgcgctcag ccggcggtat ctgcggcgtc 150
 tgctgctcct gctactgctg ctgctgctgc ggcagcccgt aacccgcgcg 200
 gagaccacgc cgggcgcccc cagagccctc tccacgctgg gctcccccag 250
 cctcttcacc acgccgggtg tccccagcgc cctcactacc ccaggcctca 300
 ctacgccagg cacccccaaa accctggacc ttcggggtcg cgcgcaggcc 350
```

```
ctgatgcgga gtttcccact cgtggacggc cacaatgacc tgccccaggt 400
cctgagacag cgttacaaga atgtgcttca ggatgttaac ctgcgaaatt 450
tcagccatgg tcagaccagc ctggacaggc ttagagacgg cctcgtgggt 500
gcccagttct ggtcagcctc cgtctcatgc cagtcccagg accagactgc 550
cgtgcgcctc gccctggagc agattgacct cattcaccgc atgtgtgcct 600
cctactctga actcgagctt gtgacctcag ctgaaggtct gaacagctct 650
caaaagctgg cctgcctcat tggcgtgnag ggtggtcact cactggacag 700
cagcetetet gtgetgegea gtttetatgt getgggggtg egetaeetga 750
cacttacctt cacctgcagt acaccatggg cagagagttc caccaagttc 800
agacaccaca tgtacaccaa cgtcagcgga ttgacaagct ttggtgagaa 850
agtagtagag gagttgaacc gcctgggcat gatgatagat ttgtcctatg 900
catcggacac cttgataaga agggtcctgg aagtgtctca ggctcctgtg 950
atcttctccc actcagctgc cagagctgtg tgtgacaatt tgttgaatgt 1000
tcccgatgat atcctgcagc ttctgaagaa cggtggcatc gtgatggtga 1050
cactgtccat gggggtgctg cagtgcaacc tgcttgctaa cgtgtccact 1100
gtggcagatc actttgacca catcagggca gtcattggat ctgagttcat 1150
cgggattggt ggaaattatg acgggactgg ccggttccct caggggctgg 1200
aggatgtgtc cacataccca gtcctgatag aggagttgct gagtcgtasc 1250
tggagcgagg aagagcttca aggtgtcctt cgtggaaacc tgctgcgggt 1300
cttcagacaa gtggaaaagg tgagagagga gagcagggcg cagagccccg 1350
tggaggctga gtttccatat gggcaactga gcacatcctg ccactcccac 1400
ctcgtgcctc agaatggaca ccaggctact catctggagg tgaccaagca 1450
gccaaccaat cgggtcccct ggaggtcctc aaatgcctcc ccataccttg 1500
ttccaggcct tgtggctgct gccaccatcc caaccttcac ccagtggctc 1550
tgctgacaca gtcggtcccc gcagaggtca ctgtggcaaa gcctcacaaa 1600
gccccctctc ctagttcatt cacaagcata tgctgagaat aaacatgtta 1650
cacatggaaa a 1661
```

<sup>&</sup>lt;210> 63

<sup>&</sup>lt;211> 487

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<220> <221> unsure <222> 196, 386 <223> unknown amino acid <400> 63 Met Gln Pro Thr Gly Arg Glu Gly Ser Arg Ala Leu Ser Arg Arg Tyr Leu Arg Arg Leu Leu Leu Leu Leu Leu Leu Leu Leu Arg Gln Pro Val Thr Arg Ala Glu Thr Thr Pro Gly Ala Pro Arg Ala Leu Ser Thr Leu Gly Ser Pro Ser Leu Phe Thr Thr Pro Gly Val Pro Ser Ala Leu Thr Thr Pro Gly Leu Thr Thr Pro Gly Thr Pro Lys Thr Leu Asp Leu Arg Gly Arg Ala Gln Ala Leu Met Arg Ser Phe Pro Leu Val Asp Gly His Asn Asp Leu Pro Gln Val Leu Arg Gln Arg Tyr Lys Asn Val Leu Gln Asp Val Asn Leu Arg Asn Phe Ser His Gly Gln Thr Ser Leu Asp Arg Leu Arg Asp Gly Leu Val Gly Ala Gln Phe Trp Ser Ala Ser Val Ser Cys Gln Ser Gln Asp Gln Thr Ala Val Arg Leu Ala Leu Glu Gln Ile Asp Leu Ile His Arg Met Cys Ala Ser Tyr Ser Glu Leu Glu Leu Val Thr Ser Ala Glu Gly Leu Asn Ser Ser Gln Lys Leu Ala Cys Leu Ile Gly Val Xaa Gly Gly His Ser Leu Asp Ser Ser Leu Ser Val Leu Arg Ser Phe Tyr Val Leu Gly Val Arg Tyr Leu Thr Leu Thr Phe Thr Cys Ser Thr Pro Trp Ala Glu Ser Ser Thr Lys Phe Arg His His Met Tyr Thr Asn Val Ser Gly Leu Thr Ser Phe Gly Glu Lys Val Val Glu Glu Leu Asn Arg Leu Gly Met Met Ile Asp Leu Ser Tyr Ala

				260					265					270
Ser	Asp	Thr	Leu	Ile 275	Arg	Arg	Val	Leu	Glu 280	Val	Ser	Gln	Ala	Pro 285
Val	Ile	Phe	Ser	His 290	Ser	Ala	Ala	Arg	Ala 295	Val	Cys	Asp	Asn	Leu 300
Leu	Asn	Val	Pro	Asp 305	Asp	Ile	Leu	Gln	Leu 310	Leu	Lys	Asn	Gly	Gly 315
Ile	Val	Met	Val	Thr 320	Leu	Ser	Met	Gly	Val 325	Leu	Gln	Cys	Asn	Leu 330
Leu	Ala	Asn	Val	Ser 335	Thr	Val	Ala	Asp	His 340	Phe	Asp	His	Ile	Arg 345
Ala	Val	Ile	Gly	Ser 350	Glu	Phe	Ile	Gly	Ile 355	Gly	Gly	Asn	Tyr	Asp 360
Gly	Thr	Gly	Arg	Phe 365	Pro	Gln	Gly	Leu	Glu 370	Asp	Val	Ser	Thr	Tyr 375
Pro	Val	Leu	Ile	Glu 380	Glu	Leu	Leu	Ser	Arg 385	Xaa	Trp	Ser	Glu	Glu 390
Glu	Leu	Gln	Gly	Val 395	Leu	Arg	Gly	Asn	Leu 400	Leu	Arg	Val	Phe	Arg 405
Gln	Val	Glu	Lys	Val 410	Arg	Glu	Glu	Ser	Arg 415	Ala	Gln	Ser	Pro	Val 420
Glu	Ala	Glu	Phe	Pro 425	Tyr	Gly	Gln	Leu	Ser 430	Thr	Ser	Cys	His	Ser 435
His	Leu	Val	Pro	Gln 440	Asn	Gly	His	Gln	Ala 445	Thr	His	Leu	Glu	Val 450
Thr	Lys	Gln	Pro	Thr 455	Asn	Arg	Val	Pro	Trp 460	Arg	Ser	Ser	Asn	Ala 465
Ser	Pro	Tyr	Leu	Val 470	Pro	Gly	Leu	Val	Ala 475	Ala	Ala	Thr	Ile	Pro 480
Thr	Phe	Thr	Gln	Trp 485	Leu	Cys								
<210> 64 <211> 25 <212> DNA <213> Artificial														
<220>														

<220>

<221> Artificial sequence <222> 1-25

<223> Synthetic construct.

<400> 64

```
<210> 65
<211> 25
<212> DNA
<213> Artificial
<220>
<221> Artificial sequence
<222> 1-25
<223> Synthetic construct.
<400> 65
gtcacacaca gctctggcag ctgag 25
<210> 66
<211> 47
<212> DNA
<213> Artificial
<220>
<221> Artificial sequence
<222> 1-47
<223> Synthetic construct.
<400> 66
ccaagttcag acaccacatg tacaccaacg tcagcggatt gacaagc 47
<210> 67
<211> 1564
<212> DNA
<213> Homo sapiens
<400> 67
tgctaggctc tgtcccacaa tgcacccgag agcaggagct gaaagcctct 50
aacacccaca gatccctcta tgactgcaat gtgaggtgtc cggctttgct 100
 ggcccagcaa gcctgataag catgaagctc ttatctttgg tggctgtggt 150
 cgggtgtttg ctggtgcccc cagctgaagc caacaagagt tctgaagata 200
 tccggtgcaa atgcatctgt ccaccttata gaaacatcag tgggcacatt 250
 tacaaccaga atgtatccca gaaggactgc aactgcctgc acgtggtgga 300
 gcccatgcca gtgcctggcc atgacgtgga ggcctactgc ctgctgtgcg 350
 agtgcaggta cgaggagcgc agcaccacca ccatcaaggt catcattgtc 400
 atctacctgt ccgtggtggg tgccctgttg ctctacatgg ccttcctgat 450
 gctggtggac cctctgatcc gaaagccgga tgcatacact gagcaactgc 500
 acaatgagga ggagaatgag gatgctcgct ctatggcagc agctgctgca 550
 tocotogggg gaccoogago aaacacagto otggagogtg tggaaggtgo 600
```

ccttcacctg cagtacacca tgggc 25

ccagcagcgg tggaagctgc aggtgcagga gcagcggaag acagtcttcg 650 atcggcacaa gatgctcagc tagatgggct ggtgtggttg ggtcaaggcc 700 ccaacaccat ggctgccagc ttccaggctg gacaaagcag ggggctactt 750 ctcccttccc tcggttccag tcttcccttt aaaagcctgt ggcatttttc 800 ctccttctcc ctaactttag aaatgttgta cttggctatt ttgattaggg 850 aagagggatg tggtctctga tctctgttgt cttcttgggt ctttggggtt 900 gaagggaggg ggaaggcagg ccagaaggga atggagacat tcgaggcggc 950 ctcaggagtg gatgcgatct gtctctcctg gctccactct tgccgccttc 1000 cagctctgag tcttgggaat gttgttaccc ttggaagata aagctgggtc 1050 ttcaggaact cagtgtctgg gaggaaagca tggcccagca ttcagcatgt 1100 gttcctttct gcagtggttc ttatcaccac ctccctccca gccccggcgc 1150 ctcagcccca gccccagctc cagccctgag gacagctctg atgggagagc 1200 tgggccccct gagcccactg ggtcttcagg gtgcactgga agctggtgtt 1250 cgctgtcccc tgtgcacttc tcgcactggg gcatggagtg cccatgcata 1300 ctctgctgcc ggtcccctca cctgcacttg aggggtctgg gcagtccctc 1350 ctctccccag tgtccacagt cactgagcca gacggtcggt tggaacatga 1400 gactcgaggc tgagcgtgga tctgaacacc acagcccctg tacttgggtt 1450 gcctcttgtc cctgaacttc gttgtaccag tgcatggaga gaaaattttg 1500 tcctcttgtc ttagagttgt gtgtaaatca aggaagccat cattaaattg 1550 ttttatttct ctca 1564

<210> 68

<211> 183

<212> PRT

<213> Homo sapiens

<400> 68

Met Lys Leu Ser Leu Val Ala Val Val Gly Cys Leu Leu Val 1 5 10 15

Pro Pro Ala Glu Ala Asn Lys Ser Ser Glu Asp Ile Arg Cys Lys 20 25 30

Cys Ile Cys Pro Pro Tyr Arg Asn Ile Ser Gly His Ile Tyr Asn 35 40 45

Gln Asn Val Ser Gln Lys Asp Cys Asn Cys Leu His Val Val Glu
50 55 60

```
Pro Met Pro Val Pro Gly His Asp Val Glu Ala Tyr Cys Leu Leu 75

Cys Glu Cys Arg Tyr Glu Glu Arg Ser Thr Thr Thr Ile Lys Val 80

Ile Ile Val Ile Tyr Leu Ser Val Val Gly Ala Leu Leu Leu Tyr 105

Met Ala Phe Leu Met Leu Val Asp Pro Leu Ile Arg Lys Pro Asp 120

Ala Tyr Thr Glu Gln Leu His Asn Glu Glu Glu Asn Glu Asp Ala 135

Arg Ser Met Ala Ala Ala Ala Ala Ala Ala Ser Leu Gly Gly Pro Arg Ala 150

Asn Thr Val Leu Glu Glu Glu Glu Glu Gly Ala Gln Gln Arg Tyr Lys 165

Leu Gln Val Gln Glu Gln Arg Lys Thr Val Phe Asp Arg His Lys
```

175

Met Leu Ser

<210> 69 <211> 3170 <212> DNA <213> Homo sapiens

170

<400> 69
agcgggtctc gcttgggtc cgctaattc tgtcctgagg cgtgagactg 50
agttcatagg gtcctgggtc cccgaaccag gaagggttga gggaacacaa 100
tctgcaagcc cccgcgaccc aagtgagggg ccccgtgttg gggtcctccc 150
tccctttgca ttcccacccc tccgggcttt gcgtcttcct ggggaccccc 200
tcgccgggag atggccgcgt tgatgcggag caaggattcg tcctgctgcc 250
tgctcctact ggccgcggtg ctgatggtgg agagctcaca gatcggcagt 300
tcgcgggcca aactcaactc catcaagtcc tctctgggcg gggagacgcc 350
tggtcaggcc gccaatcgat ctgcgggcat gtaccaagga ctggcattcg 400
gcggcagtaa gaagggcaaa aacctggggc aggcctaccc ttgtagcagt 450
gataaggagt gtgaagttgg gaggtattgc cacagtccc accaaggatc 500
atcggcctgc atggtgtc ggagaaaaaa gaagcgctgc caccagagtg 550
gcatgtgctg ccccagtacc cgctgcaata atggcatctg tatcccagtt 600
actgaaagca tcttaacccc tcacatcccg gctctggatg gtactcggca 650

cagagatcga aaccacggtc attactcaaa ccatgacttg ggatggcaga 700 atctaggaag accacacat aagatgtcac atataaaagg gcatgaagga 750 gacccctgcc tacgatcatc agactgcatt gaagggtttt gctgtgctcg 800 tcatttctgg accaaaatct gcaaaccagt gctccatcag ggggaagtct 850 gtaccaaaca acgcaagaag ggttctcatg ggctggaaat tttccagcgt 900 tgcgactgtg cgaagggcct gtcttgcaaa gtatggaaag atgccaccta 950 ctcctccaaa gccagactcc atgtgtgtca gaaaatttga tcaccattga 1000 ggaacatcat caattgcaga ctgtgaagtt gtgtatttaa tgcattatag 1050 catggtggaa aataaggttc agatgcagaa gaatggctaa aataagaaac 1100 gtgataagaa tatagatgat cacaaaaagg gagaaagaaa acatgaactg 1150 aatagattag aatgggtgac aaatgcagtg cagccagtgt ttccattatg 1200 caacttgtct atgtaaataa tgtacacatt tgtggaaaat gctattatta 1250 agagaacaag cacacagtgg aaattactga tgagtagcat gtgactttcc 1300 aagagtttag gttgtgctgg aggagaggtt tccttcagat tgctgattgc 1350 ttatacaaat aacctacatg ccagatttct attcaacgtt agagtttaac 1400 aaaatactcc tagaataact tgttatacaa taggttctaa aaataaaatt 1450 gctaaacaag aaatgaaaac atggagcatt gttaatttac aacagaaaat 1500 taccttttga tttgtaacac tacttctgct gttcaatcaa gagtcttggt 1550 agataagaaa aaaatcagtc aatatttcca aataattgca aaataatggc 1600 cagttgttta ggaaggcctt taggaagaca aataaataac aaacaaacag 1650 ccacaaatac tttttttca aaattttagt tttacctgta attaataaga 1700 actgatacaa gacaaaaaca gttccttcag attctacgga atgacagtat 1750 atctctcttt atcctatgtg attcctgctc tgaatgcatt atattttcca 1800 aactataccc ataaattgtg actagtaaaa tacttacaca gagcagaatt 1850 ttcacagatg gcaaaaaaat ttaaagatgt ccaatatatg tgggaaaaga 1900 gctaacagag agatcattat ttcttaaaga ttggccataa cctatatttt 1950 gatagaatta gattggtaaa tacatgtatt catacatact ctgtggtaat 2000 agagacttaa gctggatctg tactgcactg gagtaagcaa gaaaattggg 2050 aaaacttttt cgtttgttca ggttttggca acacatagat catatgtctg 2100

aggcacaagt tggctgttca tctttgaaac caggggatgc acagtctaaa 2150 tgaatatctg catgggattt gctatcataa tatttactat gcagatgaat 2200 tcaqtqtqaq qtcctqtqtc cgtactatcc tcaaattatt tattttatag 2250 tgctgagatc ctcaaataat ctcaatttca ggaggtttca caaaatgtac 2300 tcctgaagta gacagagtag tgaggtttca ttgccctcta taagcttctg 2350 actagccaat ggcatcatcc aattttcttc ccaaacctct gcagcatctg 2400 ctttattgcc aaagggctag tttcggtttt ctgcagccat tgcggttaaa 2450 aaatataagt aggataactt gtaaaacctg catattgcta atctatagac 2500 accacagttt ctaaattctt tgaaaccact ttactacttt ttttaaactt 2550 aactcagttc taaatacttt gtctggagca caaaacaata aaaggttatc 2600 ttatagtcgt gactttaaac ttttgtagac cacaattcac tttttagttt 2650 tcttttactt aaatcccatc tgcagtctca aatttaagtt ctcccagtag 2700 agattgagtt tgagcctgta tatctattaa aaatttcaac ttcccacata 2750 tatttactaa gatgattaag acttacattt tctgcacagg tctgcaaaaa 2800 caaaaattat aaactagtcc atccaagaac caaagtttgt ataaacaggt 2850 tgctataagc ttgtgaaatg aaaatggaac atttcaatca aacatttcct 2900 atataacaat tattatattt acaatttggt ttctgcaata tttttcttat 2950 gtccaccctt ttaaaaatta ttatttgaag taatttattt acaggaaatg 3000 ttaatgagat gtattttctt atagagatat ttcttacaga aagctttgta 3050 gcagaatata tttgcagcta ttgactttgt aatttaggaa aaatgtataa 3100 taagataaaa totattaaat ttttctcctc taaaaactga aaaaaaaaa 3150 aaaaaaaaa aaaaaaaaaa 3170

<210> 70

<211> 259

<212> PRT

<213> Homo sapiens

<400> 70

Met Ala Ala Leu Met Arg Ser Lys Asp Ser Ser Cys Cys Leu Leu 1 5 10 15

Leu Leu Ala Ala Val Leu Met Val Glu Ser Ser Gln Ile Gly Ser 20 25 30

Ser Arg Ala Lys Leu Asn Ser Ile Lys Ser Ser Leu Gly Glu 35 40 45

Thr Pro Gly Gln Ala Ala Asn Arg Ser Ala Gly Met Tyr Gln Gly Leu Ala Phe Gly Gly Ser Lys Lys Gly Lys Asn Leu Gly Gln Ala Tyr Pro Cys Ser Ser Asp Lys Glu Cys Glu Val Gly Arg Tyr Cys His Ser Pro His Gln Gly Ser Ser Ala Cys Met Val Cys Arg Arg Lys Lys Lys Arg Cys His Arg Asp Gly Met Cys Cys Pro Ser Thr Arg Cys Asn Asn Gly Ile Cys Ile Pro Val Thr Glu Ser Ile Leu 130 Thr Pro His Ile Pro Ala Leu Asp Gly Thr Arg His Arg Asp Arg 140 145 150 Asn His Gly His Tyr Ser Asn His Asp Leu Gly Trp Gln Asn Leu Gly Arg Pro His Thr Lys Met Ser His Ile Lys Gly His Glu Gly 170 180 Asp Pro Cys Leu Arg Ser Ser Asp Cys Ile Glu Gly Phe Cys Cys Ala Arg His Phe Trp Thr Lys Ile Cys Lys Pro Val Leu His Gln 200 210 Gly Glu Val Cys Thr Lys Gln Arg Lys Lys Gly Ser His Gly Leu 215 Glu Ile Phe Gln Arg Cys Asp Cys Ala Lys Gly Leu Ser Cys Lys 230 Val Trp Lys Asp Ala Thr Tyr Ser Ser Lys Ala Arg Leu His Val 250 255

Cys Gln Lys Ile

<210> 71 <211> 1809 <212> DNA

<213> Homo sapiens

## <400> 71

teteaatetg etgacetegt gateegeetg acettgtaat ceacetacet 50 tggeeteeca aagtgttggg attacaggeg tgageeaceg egeeeggeea 100 acateaegtt tttaaaaatt gatttettea aatteatgge aaatatttee 150 etteeettta aettettatg teagaatgag gaaggatage tgeatttatt 200

tagtcagttt tcattgcata gtaatatttt catgtagtat tttctaagtt 250 atattttagt aattcatatg ttttagatta taggttttaa catacttgtg 300 aaaatacttg atgtgtttta aagccttggg cagaaattct gtattgttga 350 ggatttgttc ttttatcccc cttttaaagt catccgtcct tggctcagga 400 tttggagagc ttgcaccacc aaaaatggca aacatcacca gctcccagat 450 tttggaccag ttgaaagctc cgagtttggg ccagtttacc accaccccaa 500 gtacacagca gaatagtaca agtcacccta caactactac ttcttgggac 550 ctcaagcccc caacatccca gtcctcagtc ctcagtcatc ttgacttcaa 600 atctcaacct gagccatccc cagttcttag ccagttgagc cagcgacaac 650 agcaccagag ccaggcagtc actgttcctc ctcctggttt ggagtccttt 700 ccttcccagg caaaacttcg agaatcaaca cctggagaca gtccctccac 750 tgtgaacaag cttttgcagc ttcccagcac gaccattgaa aatatctctg 800 tgtctgtcca ccagccacag cccaaacaca tcaaacttgc taagcggcgg 850 ataccccag cttctaagat cccagcttct gcagtggaaa tgcctggttc 900 agcagatgtc acaggattaa atgtgcagtt tggggctctg gaatttgggt 950 cagaaccttc tctctctgaa tttggatcag ctccaagcag tgaaaatagt 1000 aatcagattc ccatcagctt gtattcgaag tctttaagtg agcctttgaa 1050 tacatcttta tcaatgacca gtgcagtaca gaactccaca tatacaactt 1100 ccqtcattac ctcctqcaqt ctgacaagct catcactgaa ttctgctagt 1150 ccagtagcaa tgtcttcctc ttatgaccag agttctgtgc ataacaggat 1200 cccataccaa agccctgtga gttcatcaga gtcagctcca ggaaccatca 1250 tgaatggaca tggtggtggt cgaagtcagc agacactaga cagtaagtat 1300 agcagcaagc tactcttgtc atggctggtg ccaaccaaac agaggaagag 1350 gatageteae gtgatgtgga aaacaccagt tggtcaatgg etcattegtt 1400 aaaaagcagc ccttttgctt ttttgttttt ggaccaggtg ttggctgtgg 1450 tgttattaga aatgtcttaa ccacagcaag aaggaggtgg tggtctcata 1500 ttcttctgcc ctaatcagac tgcaccacaa gtgcagcata cagtatgcat 1550 tttaaagatg cttgggccag gcggggtggc tgatgcccat aatcccagtg 1600 ctttgggggg ccaaggcagg cagattgccc aagctcagga gtttgagacc 1650

accetgggca acatggtgaa actetgtete tactaaaata egaaaaacta 1700 geegggtgtg gtggeggege gtgeetgtaa teecagetae ttgggagget 1750 gaggeacaag aategettga geeagettgg getacaaagt gagaeteegt 1800 etgaaaaga 1809

<210> 72

<211> 363

<212> PRT

<213> Homo sapiens

<400> 72

Met Cys Phe Lys Ala Leu Gly Arg Asn Ser Val Leu Leu Arg Ile 1 5 10 15

Cys Ser Phe Ile Pro Leu Leu Lys Ser Ser Val Leu Gly Ser Gly 20 25 30

Phe Gly Glu Leu Ala Pro Pro Lys Met Ala Asn Ile Thr Ser Ser 35 40 45

Gln Ile Leu Asp Gln Leu Lys Ala Pro Ser Leu Gly Gln Phe Thr
50 55 60

Thr Thr Pro Ser Thr Gln Gln Asn Ser Thr Ser His Pro Thr Thr
65 70 75

Thr Thr Ser Trp Asp Leu Lys Pro Pro Thr Ser Gln Ser Ser Val 80 85 90

Leu Ser His Leu Asp Phe Lys Ser Gln Pro Glu Pro Ser Pro Val 95 100 105

Leu Ser Gln Leu Ser Gln Arg Gln Gln His Gln Ser Gln Ala Val 110 115 120

Thr Val Pro Pro Gly Leu Glu Ser Phe Pro Ser Gln Ala Lys 125 130 135

Leu Arg Glu Ser Thr Pro Gly Asp Ser Pro Ser Thr Val Asn Lys
140 145 150

Leu Leu Gln Leu Pro Ser Thr Thr Ile Glu Asn Ile Ser Val Ser 155 160 165

Val His Gln Pro Gln Pro Lys His Ile Lys Leu Ala Lys Arg Arg 170 175 180

Ile Pro Pro Ala Ser Lys Ile Pro Ala Ser Ala Val Glu Met Pro 185 190 195

Gly Ser Ala Asp Val Thr Gly Leu Asn Val Gln Phe Gly Ala Leu  $200 \hspace{1cm} 205 \hspace{1cm} 210 \hspace{1cm}$ 

Glu Phe Gly Ser Glu Pro Ser Leu Ser Glu Phe Gly Ser Ala Pro 215 220 225

<211> 50

```
Ser Ser Glu Asn Ser Asn Gln Ile Pro Ile Ser Leu Tyr Ser Lys
                 230
Ser Leu Ser Glu Pro Leu Asn Thr Ser Leu Ser Met Thr Ser Ala
                 245
Val Gln Asn Ser Thr Tyr Thr Thr Ser Val Ile Thr Ser Cys Ser
                                     265
                 260
Leu Thr Ser Ser Ser Leu Asn Ser Ala Ser Pro Val Ala Met Ser
                 275
                                     280
Ser Ser Tyr Asp Gln Ser Ser Val His Asn Arg Ile Pro Tyr Gln
                                     295
                 290
Ser Pro Val Ser Ser Ser Glu Ser Ala Pro Gly Thr Ile Met Asn
                                     310
Gly His Gly Gly Gly Arg Ser Gln Gln Thr Leu Asp Ser Lys Tyr
                                     325
                                                          330
Ser Ser Lys Leu Leu Ser Trp Leu Val Pro Thr Lys Gln Arg
Lys Arg Ile Ala His Val Met Trp Lys Thr Pro Val Gly Gln Trp
Leu Ile Arg
<210> 73
<211> 26
<212> DNA
<213> Artificial
<220>
<221> Artificial sequence
<222> 1-26
<223> Synthetic construct.
<400> 73
aattcatggc aaatatttcc cttccc 26
<210> 74
<211> 22
<212> DNA
<213> Artificial
<220>
<221> Artificial sequence
<222> 1-22
<223> Synthetic construct.
<400> 74
tggtaaactg gcccaaactc gg 22
<210> 75
```

```
<212> DNA
<213> Artificial
<220>
<221> Artificial sequence
<222> 1-50
<223> Synthetic construct
<400> 75
ttaaagtcat ccgtccttgg ctcaggattt ggagagcttg caccaccaaa 50
<210> 76
<211> 1989
<212> DNA
<213> Homo sapiens
<400> 76
 gccgagtggg acaaagcctg gggctgggcg ggggccatgg cgctgccatc 50
ccgaatcctg ctttggaaac ttgtgcttct gcagagctct gctgttctcc 100
tgcactcagc ggtggaggag acggacgcgg ggctgtacac ctgcaacctg 150
 caccatcact actgccacct ctacgagage ctggccgtcc qcctggaggt 200
caccgacggc cccccggcca cccccgccta ctgggacggc gagaaggagg 250
tgctggcggt ggcgcggc gcacccgcgc ttctgacctg cgtgaaccgc 300
gggcacgtgt ggaccgaccg gcacgtggag gaggctcaac aggtggtgca 350
ctgggaccgc cagccgcccg gggtcccgca cgaccgcgcg gaccgcctgc 400
 tggacctcta cgcgtcgggc gagcgccgcg cctacgggcc cctttttctg 450
cgcgaccgcg tggctgtggg cgcggatgcc tttgagcgcg gtgacttctc 500
actgcgtatc gagccgctgg aggtcgccga cgagggcacc tactcctgcc 550
acctgcacca ccattactgt ggcctgcacg aacgccgcgt cttccacctg 600
acggtcgccg aaccccacgc ggagccgccc ccccggggct ctccgggcaa 650
cggctccagc cacagcggcg ccccaggccc agaccccaca ctggcgcgcg 700
gccacaacgt catcaatgtc atcgtccccg agagccgagc ccacttcttc 750
cagcagctgg gctacgtgct ggccacgctg ctgctcttca tcctgctact 800
ggtcactgtc ctcctggccg cccgcaggcg ccgcggaggc tacgaatact 850
cggaccagaa gtcgggaaag tcaaagggga aggatgttaa cttggcggag 900
ttcgctgtgg ctgcagggga ccagatgctt tacaggagtg aggacatcca 950
gctagattac aaaaacaaca tcctgaagga gagggcggag ctqqcccaca 1000
gccccctgcc tgccaagtac atcgacctag acaaagggtt ccggaaggag 1050
```

aactgcaaat agggaggccc tgggctcctg gctgggccag cagctgcacc 1100 tctcctgtct gtgctcctcg gggcatctcc tgatgctccg gggctcaccc 1150 cccttccagc ggctggtccc gctttcctgg aatttggcct gggcgtatgc 1200 agaggeegee tecaeaceee teceeeaggg gettggtgge ageatageee 1250 ccacccctgc ggcctttgct cacgggtggc cctgcccacc cctggcacaa 1300 ccaaaatccc actgatgccc atcatgccct cagacccttc tgggctctgc 1350 ccgctggggg cctgaagaca ttcctggagg acactcccat cagaacctgg 1400 cagococaaa actggggtca gootcagggc aggagtcoca ctcctccagg 1450 gctctgctcg tccggggctg ggagatgttc ctggaggagg acactcccat 1500 cagaacttgg cagccttgaa gttggggtca gcctcggcag gagtcccact 1550 cctcctgggg tgctgcctgc caccaagagc tccccacct gtaccaccat 1600 gtgggactcc aggcaccatc tgttctcccc agggacctgc tgacttgaat 1650 gccagccctt gctcctctgt gttgctttgg gccacctggg gctgcacccc 1700 ctgccctttc tctgccccat ccctacccta gccttgctct cagccacctt 1750 gatagtcact gggctccctg tgacttctga ccctgacacc cctcccttgg 1800 actctgcctg ggctggagtc tagggctggg gctacatttg gcttctgtac 1850 tggctgagga caggggaggg agtgaagttg gtttggggtg gcctgtgttg 1900 ccactctcag caccccacat ttgcatctgc tggtggacct gccaccatca 1950 caataaagtc cccatctgat ttttaaaaaaa aaaaaaaaa 1989

```
<210> 77
```

## <400> 77

Met Ala Leu Pro Ser Arg Ile Leu Leu Trp Lys Leu Val Leu Leu 1 5 10 15

Gln Ser Ser Ala Val Leu Leu His Ser Ala Val Glu Glu Thr Asp 20 25 30

Ala Gly Leu Tyr Thr Cys Asn Leu His His His Tyr Cys His Leu
35 40 45

Tyr Glu Ser Leu Ala Val Arg Leu Glu Val Thr Asp Gly Pro Pro 50 55 60

Ala Thr Pro Ala Tyr Trp Asp Gly Glu Lys Glu Val Leu Ala Val
65 70 75

<sup>&</sup>lt;211> 341

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

```
Ala Arg Gly Ala Pro Ala Leu Leu Thr Cys Val Asn Arg Gly His
Val Trp Thr Asp Arg His Val Glu Glu Ala Gln Gln Val Val His
Trp Asp Arg Gln Pro Pro Gly Val Pro His Asp Arg Ala Asp Arg
Leu Leu Asp Leu Tyr Ala Ser Gly Glu Arg Arg Ala Tyr Gly Pro
Leu Phe Leu Arg Asp Arg Val Ala Val Gly Ala Asp Ala Phe Glu
Arg Gly Asp Phe Ser Leu Arg Ile Glu Pro Leu Glu Val Ala Asp
                                    160
Glu Gly Thr Tyr Ser Cys His Leu His His His Tyr Cys Gly Leu
                170
                                    175
His Glu Arg Arg Val Phe His Leu Thr Val Ala Glu Pro His Ala
                185
Glu Pro Pro Pro Arg Gly Ser Pro Gly Asn Gly Ser Ser His Ser
                200
                                    205
Gly Ala Pro Gly Pro Asp Pro Thr Leu Ala Arg Gly His Asn Val
                215
Ile Asn Val Ile Val Pro Glu Ser Arg Ala His Phe Phe Gln Gln
                230
                                    235
Leu Gly Tyr Val Leu Ala Thr Leu Leu Leu Phe Ile Leu Leu
                245
                                    250
Val Thr Val Leu Leu Ala Ala Arg Arg Arg Gly Gly Tyr Glu
                260
Tyr Ser Asp Gln Lys Ser Gly Lys Ser Lys Gly Lys Asp Val Asn
Leu Ala Glu Phe Ala Val Ala Ala Gly Asp Gln Met Leu Tyr Arg
                290
Ser Glu Asp Ile Gln Leu Asp Tyr Lys Asn Asn Ile Leu Lys Glu
                305
Arg Ala Glu Leu Ala His Ser Pro Leu Pro Ala Lys Tyr Ile Asp
                320
Leu Asp Lys Gly Phe Arg Lys Glu Asn Cys Lys
                335
```

<sup>&</sup>lt;210> 78

<sup>&</sup>lt;211> 2243

<sup>&</sup>lt;212> DNA

<sup>&</sup>lt;213> Homo sapiens

<400> 78 cgccggaggc agcggcggcg tggcgcagcg gcgacatggc cgttgtctca 50 gaggacgact ttcagcacag ttcaaactcc acctacggaa ccacaagcag 100 cagtctccga gctgaccagg aggcactgct tgagaagctg ctggaccgcc 150 cgcccctgg cctgcagagg cccgaggacc gcttctgtgg cacatacatc 200 atcttcttca gcctgggcat tggcagtcta ctgccatgga acttctttat 250 cactgccaag gagtactgga tgttcaaact ccgcaactcc tccagcccag 300 ccaccgggga ggaccctgag ggctcagaca tcctgaacta ctttgagagc 350 taccttgccg ttgcctccac cgtgccctcc atgctgtgcc tggtggccaa 400 cttcctgctt gtcaacaggg ttgcagtcca catccgtgtc ctggcctcac 450 tgacggtcat cctggccatc ttcatggtga taactgcact ggtgaaggtg 500 gacacttcct cctggacccg tggttttttt gcggtcacca ttgtctgcat 550 ggtgatcctc agcggtgcct ccactgtctt cagcagcagc atctacggca 600 tgaccggctc ctttcctatg aggaactccc aagcactgat atcaggagga 650 gccatgggcg ggacggtcag cgccgtggcc tcattggtgg acttggctgc 700 atccagtgat gtgaggaaca gcgccctggc cttcttcctg acggccacca 750 tetteetegt getetgeatg ggaetetace tgetgetgte caggetggag 800 tatgccaggt actacatgag gcctgttctt gcggcccatg tgttttctgg 850 tgaagaggag cttccccagg actccctcag tgccccttcg gtggcctcca 900 gattcattga ttcccacaca ccccctctcc gccccatcct gaagaagacg 950 gccagcctgg gcttctgtgt cacctacgtc ttcttcatca ccagcctcat 1000 ctaccccgcc gtctgcacca acatcgagtc cctcaacaag ggctcgggct 1050 cactgtggac caccaagttt ttcatccccc tcactacctt cctcctgtac 1100 aactttgctg acctatgtgg ccggcagctc accgcctgga tccaggtgcc 1150 agggcccaac agcaaggcgc tcccagggtt cgtgctcctc cggacctgcc 1200 tcatccccct cttcgtgctc tgtaactacc agccccgcgt ccacctgaag 1250 actgtggtct tccagtccga tgtgtacccc gcactcctca gctccctgct 1300 ggggctcagc aacggctacc tcagcaccct ggccctcctc tacgggccta 1350 agattgtgcc cagggagctg gctgaggcca cgggagtggt gatgtccttt 1400 tatgtgtgct tgggcttaac actgggctca gcctgctcta ccctcctggt 1450

gcacctcatc tagaagggag gacacaagga cattggtgct tcagagcctt 1500 tgaagatgag aagagagtgc aggagggctg ggggccatgg aggaaaggcc 1550 taaagtttca cttggggaca gagagcagag cacactcggg cctcatccct 1600 cccaagatge cagtgageea egtecatgee catteegtge aaggeagata 1650 ttccagtcat attaacagaa cactcctgag acagttgaag aagaaatagc 1700 acaaatcagg ggtactccct tcacagctga tggttaacat tccaccttct 1750 ttctagccct tcaaagatgc tgccagtgtt cgccctagag ttattacaaa 1800 gccagtgcca aaacccagcc atgggctctt tgcaacctcc cagctgcgct 1850 cattccagct gacagcgaga tgcaagcaaa tgctcagctc tccttaccct 1900 gaaggggtct ccctggaatg gaagtcccct ggcatggtca gtcctcaggc 1950 ccaagactca agtgtgcaca gacccctgtg ttctgcgggt gaacaactgc 2000 ccactaacca gactggaaaa cccagaaaga tgggccttcc atgaatgctt 2050 cattccagag ggaccagagg gcctccctgt gcaagggatc aagcatgtct 2100 ggcctgggtt ttcaaaaaaa gagggatcct catgacctgg tggtctatgg 2150 cctgggtcaa gatgagggtc tttcagtgtt cctgtttaca acatgtcaaa 2200 gccattggtt caagggcgta ataaatactt gcgtattcaa aaa 2243

<210> 79

<211> 475

<212> PRT

<213> Homo sapiens

<400> 79

Met Ala Val Val Ser Glu Asp Asp Phe Gln His Ser Ser Asn Ser 1 5 10 15

Thr Tyr Gly Thr Thr Ser Ser Ser Leu Arg Ala Asp Gln Glu Ala 20 25 30

Leu Leu Glu Lys Leu Leu Asp Arg Pro Pro Pro Gly Leu Gln Arg
35 40 45

Pro Glu Asp Arg Phe Cys Gly Thr Tyr Ile Ile Phe Phe Ser Leu
50 55 60

Gly Ile Gly Ser Leu Leu Pro Trp Asn Phe Phe Ile Thr Ala Lys
65 70 75

Glu Tyr Trp Met Phe Lys Leu Arg Asn Ser Ser Ser Pro Ala Thr 80 85 90

Gly Glu Asp Pro Glu Gly Ser Asp Ile Leu Asn Tyr Phe Glu Ser 95 100 105

Tyr	Leu	Ala	Val	Ala 110	Ser	Thr	Val	Pro	Ser 115	Met	Leu	Cys	Leu	Val 120
Ala	Asn	Phe	Leu	Leu 125	Val	Asn	Arg	Val	Ala 130	Val	His	Ile	Arg	Val 135
Leu	Ala	Ser	Leu	Thr 140	Val	Ile	Leu	Ala	Ile 145	Phe	Met	Val	Ile	Thr 150
Ala	Leu	Val	Lys	Val 155	Asp	Thr	Ser	Ser	Trp 160	Thr	Arg	Gly	Phe	Phe 165
Ala	Val	Thr	Ile	Val 170	Cys	Met	Val	Ile	Leu 175	Ser	Gly	Ala	Ser	Thr 180
Val	Phe	Ser	Ser	Ser 185	Ile	Tyr	Gly	Met	Thr 190	Gly	Ser	Phe	Pro	Met 195
Arg	Asn	Ser	Gln	Ala 200	Leu	Ile	Ser	Gly	Gly 205	Ala	Met	Gly	Gly	Thr 210
Val	Ser	Ala	Val	Ala 215	Ser	Leu	Val	Asp	Leu 220	Ala	Ala	Ser	Ser	Asp 225
Val	Arg	Asn	Ser	Ala 230	Leu	Ala	Phe	Phe	Leu 235	Thr	Ala	Thr	Ile	Phe 240
Leu	Val	Leu	Cys	Met 245	Gly	Leu	Tyr	Leu	Leu 250	Leu	Ser	Arg	Leu	Glu 255
Tyr	Ala	Arg	Tyr	Tyr 260	Met	Arg	Pro	Val	Leu 265	Ala	Ala	His	Val	Phe 270
Ser	Gly	Glu	Glu	Glu 275	Leu	Pro	Gln	Asp	Ser 280		Ser		Pro	Ser 285
Val	Ala	Ser	Arg	Phe 290	Ile	Asp	Ser	His	Thr 295	Pro	Pro	Leu	Arg	Pro 300
Ile	Leu	Lys	Lys	Thr 305	Ala	Ser	Leu	Gly	Phe 310	Cys	Val	Thr	Tyr	Val 315
Phe	Phe	Ile	Thr	Ser 320	Leu	Ile	Tyr	Pro	Ala 325	Val	Cys	Thr	Asn	Ile 330
Glu	Ser	Leu	Asn	Lys 335	Gly	Ser	Gly	Ser	Leu 340	Trp	Thr	Thr	Lys	Phe 345
Phe	Ile	Pro	Leu	Thr 350	Thr	Phe	Leu	Leu	Tyr 355	Asn	Phe	Ala	Asp	Leu 360
Cys	Gly	Arg	Gln	Leu 365	Thr	Ala	Trp	Ile	Gln 370	Val	Pro	Gly	Pro	Asn 375
Ser	Lys	Ala	Leu	Pro 380	Gly	Phe	Val	Leu	Leu 385	Arg	Thr	Cys	Leu	Ile 390
Pro	Leu	Phe	Val	Leu	Cys	Asn	Tyr	Gln	Pro	Arg	Val	His	Leu	Lys

405 400 395 Thr Val Val Phe Gln Ser Asp Val Tyr Pro Ala Leu Leu Ser Ser 415 410 Leu Leu Gly Leu Ser Asn Gly Tyr Leu Ser Thr Leu Ala Leu Leu 430 Tyr Gly Pro Lys Ile Val Pro Arg Glu Leu Ala Glu Ala Thr Gly Val Val Met Ser Phe Tyr Val Cys Leu Gly Leu Thr Leu Gly Ser Ala Cys Ser Thr Leu Leu Val His Leu Ile 470 <210> 80 <211> 22 <212> DNA <213> Artificial <220> <221> Artificial sequence <222> 1-22 <223> Synthetic construct. <400> 80 ttttgcggtc accattgtct gc 22 <210> 81 <211> 23 <212> DNA <213> Homo sapiens <220> <221> Artificial sequence <222> 1-23 <223> Synthetic construct. <400> 81 cgtaggtgac acagaagccc agg 23 <210> 82 <211> 49 <212> DNA <213> Artificial <220> <221> Artificial sequence <222> 1-49 <223> Synthetic construct. tacqqcatqa ccqqctcctt tcctatgagg aactcccagg cactgatat 49 <210> 83 <211> 1844

<212> DNA <213> Homo sapiens

<400> 83 gacagtggag ggcagtggag aggaccgcgc tgtcctgctg tcaccaagag 50 ctggagacac catctcccac cgagagtcat ggccccattg gccctgcacc 100 tectegteet egteceeate etecteagee tggtggeete ceaggactgg 150 aaggctgaac gcagccaaga ccccttcgag aaatgcatgc aggatcctga 200 ctatgagcag ctgctcaagg tggtgacctg ggggctcaat cggaccctga 250 agccccagag ggtgattgtg gttggcgctg gtgtggccgg gctggtggcc 300 gccaaggtgc tcagcgatgc tggacacaag gtcaccatcc tggaggcaga 350 taacaggatc gggggccgca tcttcaccta ccgggaccag aacacgggct 400 ggattgggga gctgggagcc atgcgcatgc ccagctctca caggatcctc 450 cacaagetet gecagggeet ggggeteaac etgaceaagt teacecagta 500 cgacaagaac acgtggacgg aggtgcacga agtgaagctg cgcaactatg 550 tggtggagaa ggtgcccgag aagctgggct acgccttgcg tccccaggaa 600 aagggccact cgcccgaaga catctaccag atggctctca accaggccct 650 caaagacctc aaggcactgg gctgcagaaa ggcgatgaag aagtttgaaa 700 ggcacacgct cttggaatat cttctcgggg aggggaacct gagccggccg 750 gccgtgcagc ttctgggaga cgtgatgtcc gaggatggct tcttctatct 800 cagettegee gaggeeetee gggeeeacag etgeeteage gacagaetee 850 agtacagccg catcgtgggt ggctgggacc tgctgccgcg cgcgctgctg 900 agetegetgt eegggettgt getgttgaac gegeeegtgg tggegatgae 950 ccagggaccg cacgatgtgc acgtgcagat cgagacctct cccccggcgc 1000 ggaatctgaa ggtgctgaag gccgacgtgg tgctgctgac ggcgagcgga 1050 ccggcggtga agcgcatcac cttctcgccg ccgctgcccc gccacatgca 1100 ggaggcgctg cggaggctgc actacgtgcc ggccaccaag gtgttcctaa 1150 gcttccgcag gcccttctgg cgcgaggagc acattgaagg cggccactca 1200 aacaccgatc gcccgtcgcg catgattttc tacccgccgc cgcgcgaggg 1250 cgcgctgctg ctggcctcgt acacgtggtc ggacgcggcg gcagcgttcg 1300 ccggcttgag ccgggaagag gcgttgcgct tggcgctcga cgacgtggcg 1350

<210> 84 <211> 567 <212> PRT <213> Homo sapiens

<400> 84

Met Ala Pro Leu Ala Leu His Leu Leu Val Leu Val Pro Ile Leu 1 5 10 15

Leu Ser Leu Val Ala Ser Gln Asp Trp Lys Ala Glu Arg Ser Gln 20 25 30

Asp Pro Phe Glu Lys Cys Met Gln Asp Pro Asp Tyr Glu Gln Leu 35 40 45

Leu Lys Val Val Thr Trp Gly Leu Asn Arg Thr Leu Lys Pro Gln 50 55 60

Arg Val Ile Val Val Gly Ala Gly Val Ala Gly Leu Val Ala Ala 65 70 75

Lys Val Leu Ser Asp Ala Gly His Lys Val Thr Ile Leu Glu Ala 80 85 90

Asp Asn Arg Ile Gly Gly Arg Ile Phe Thr Tyr Arg Asp Gln Asn 95 100 105

Thr Gly Trp Ile Gly Glu Leu Gly Ala Met Arg Met Pro Ser Ser 110 115 120

His Arg Ile Leu His Lys Leu Cys Gln Gly Leu Gly Leu Asn Leu 125 130 135

Thr Lys Phe Thr Gln Tyr Asp Lys Asn Thr Trp Thr Glu Val His
140 145 150

Glu Val Lys Leu Arg Asn Tyr Val Val Glu Lys Val Pro Glu Lys

Leu Gly Tyr Ala Leu Arg Pro Gln Glu Lys Gly His Ser Pro Glu 170 Asp Ile Tyr Gln Met Ala Leu Asn Gln Ala Leu Lys Asp Leu Lys Ala Leu Gly Cys Arg Lys Ala Met Lys Lys Phe Glu Arg His Thr Leu Leu Glu Tyr Leu Leu Gly Glu Gly Asn Leu Ser Arg Pro Ala Val Gln Leu Leu Gly Asp Val Met Ser Glu Asp Gly Phe Phe Tyr Leu Ser Phe Ala Glu Ala Leu Arg Ala His Ser Cys Leu Ser Asp Arg Leu Gln Tyr Ser Arg Ile Val Gly Gly Trp Asp Leu Leu Pro 260 Arg Ala Leu Leu Ser Ser Leu Ser Gly Leu Val Leu Leu Asn Ala 275 Pro Val Val Ala Met Thr Gln Gly Pro His Asp Val His Val Gln 290 Ile Glu Thr Ser Pro Pro Ala Arg Asn Leu Lys Val Leu Lys Ala 305 310 Asp Val Val Leu Leu Thr Ala Ser Gly Pro Ala Val Lys Arg Ile 320 Thr Phe Ser Pro Pro Leu Pro Arg His Met Gln Glu Ala Leu Arg Arg Leu His Tyr Val Pro Ala Thr Lys Val Phe Leu Ser Phe Arg 350 355 Arg Pro Phe Trp Arg Glu Glu His Ile Glu Gly Gly His Ser Asn Thr Asp Arg Pro Ser Arg Met Ile Phe Tyr Pro Pro Pro Arg Glu 380 390 Gly Ala Leu Leu Ala Ser Tyr Thr Trp Ser Asp Ala Ala 395 Ala Phe Ala Gly Leu Ser Arg Glu Glu Ala Leu Arg Leu Ala Leu 410 Asp Asp Val Ala Ala Leu His Gly Pro Val Val Arg Gln Leu Trp Asp Gly Thr Gly Val Val Lys Arg Trp Ala Glu Asp Gln His Ser 440 450 Gln Gly Gly Phe Val Val Gln Pro Pro Ala Leu Trp Gln Thr Glu

455 460 465 Lys Asp Asp Trp Thr Val Pro Tyr Gly Arg Ile Tyr Phe Ala Gly Glu His Thr Ala Tyr Pro His Gly Trp Val Glu Thr Ala Val Lys 490 Ser Ala Leu Arg Ala Ala Ile Lys Ile Asn Ser Arg Lys Gly Pro 500 510 Ala Ser Asp Thr Ala Ser Pro Glu Gly His Ala Ser Asp Met Glu Gly Gln Gly His Val His Gly Val Ala Ser Ser Pro Ser His Asp 530 Leu Ala Lys Glu Glu Gly Ser His Pro Pro Val Gln Gly Gln Leu 545 Ser Leu Gln Asn Thr Thr His Thr Arg Thr Ser His 560 565

<210> 85 <211> 3316 <212> DNA

<213> Homo sapiens

<400> 85 ctgacatggc ctgactcggg acagctcaga gcagggcaga actggggaca 50 ctctgggccg gccttctgcc tgcatggacg ctctgaagcc accctgtctc 100 tggaggaacc acgagcgagg gaagaaggac agggactcgt gtggcaggaa 150 gaactcagag ccgggaagcc cccattcact agaagcactg agagatgcgg 200 ccccctcgca gggtctgaat ttcctgctgc tgttcacaaa gatgcttttt 250 atctttaact ttttgttttc cccacttccg accccggcgt tgatctgcat 300 cctgacattt ggagctgcca tcttcttgtg gctgatcacc agacctcaac 350 ccgtcttacc tcttcttgac ctgaacaatc agtctgtggg aattgaggga 400 ggagcacgga agggggtttc ccagaagaac aatgacctaa caagttgctg 450 cttctcagat gccaagacta tgtatgaggt tttccaaaga ggactcgctg 500 tgtctgacaa tgggccctgc ttgggatata gaaaaccaaa ccagccctac 550 agatggctat cttacaaaca ggtgtctgat agagcagagt acctgggttc 600 tctttgctca gaataggcca gagtggatca tctccgaatt ggcttgttac 700 acgtactcta tggtagctgt acctctgtat gacaccttgg gaccagaagc 750

catcgtacat attgtcaaca aggctgatat cgccatggtg atctgtgaca 800 caccccaaaa ggcattggtg ctgataggga atgtagagaa aggcttcacc 850 ccgagcctga aggtgatcat ccttatggac ccctttgatg atgacctgaa 900 gcaaagaggg gagaagagtg gaattgagat cttatcccta tatgatgctg 950 agaacctagg caaagagcac ttcagaaaac ctgtgcctcc tagcccagaa 1000 gacctgagcg tcatctgctt caccagtggg accacaggtg accccaaagg 1050 agccatgata acccatcaaa atattgtttc aaatgctgct gcctttctca 1100 aatgtgtgga gcatgcttat gagcccactc ctgatgatgt ggccatatcc 1150 tacctccctc tggctcatat gtttgagagg attgtacagg ctgttgtgta 1200 cagctgtgga gccagagttg gattcttcca aggggatatt cggttgctgg 1250 ctgacgacat gaagactttg aagcccacat tgtttcccgc ggtgcctcga 1300 ctccttaaca ggatctacga taaggtacaa aatgaggcca agacaccctt 1350 gaagaagttc ttgttgaagc tggctgtttc cagtaaattc aaagagcttc 1400 aaaagggtat catcaggcat gatagtttct gggacaagct catctttgca 1450 aagatccagg acagcctggg cggaagggtt cgtgtaattg tcactggagc 1500 tgcccccatg tccacttcag tcatgacatt cttccgggca gcaatgggat 1550 gtcaggtgta tgaagcttat ggtcaaacag aatgcacagg tggctgtaca 1600 tttacattac ctggggactg gacatcaggt cacgttgggg tgcccctggc 1650 ttgcaattac gtgaagctgg aagatgtggc tgacatgaac tactttacag 1700 tgaataatga aggagaggtc tgcatcaagg gtacaaacgt gttcaaagga 1750 tacctgaagg accctgagaa gacacaggaa gccctggaca gtgatggctg 1800 gcttcacaca ggagacattg gtcgctggct cccgaatgga actctgaaga 1850 tcatcgaccg taaaaagaac attttcaagc tggcccaagg agaatacatt 1900 gcaccagaga agatagaaaa tatctacaac aggagtcaac cagtgttaca 1950 aatttttgta cacggggaga gcttacggtc atccttagta ggagtggtgg 2000 ttcctgacac agatgtactt ccctcatttg cagccaagct tggggtgaag 2050 ggctcctttg aggaactgtg ccaaaaccaa gttgtaaggg aagccatttt 2100 agaagacttg cagaaaattg ggaaagaaag tggccttaaa acttttgaac 2150 aggtcaaagc cattttctt catccagagc cattttccat tgaaaatggg 2200

ctcttgacac caacattgaa agcaaagcga ggagagcttt ccaaatactt 2250 tcggacccaa attgacagcc tgtatgagca catccaggat taggataagg 2300 tacttaagta cctgccggcc cactgtgcac tgcttgtgag aaaatggatt 2350 aaaaactatt cttacatttg ttttgccttt cctcctattt ttttttaacc 2400 tgttaaactc taaagccata gcttttgttt tatattgaga catataatgt 2450 gtaaacttag ttcccaaata aatcaatcct gtctttccca tcttcgatgt 2500 tgctaatatt aaggcttcag ggctactttt atcaacatgc ctgtcttcaa 2550 gateceagtt tatgttetgt gteetteete atgattteea acettaatae 2600 tattagtaac cacaagttca agggtcaaag ggaccctctg tgccttcttc 2650 tttgttttgt gataaacata acttgccaac agtctctatg cttatttaca 2700 tcttctactg ttcaaactaa gagattttta aattctgaaa aactgcttac 2750 aattcatgtt ttctagccac tccacaaacc actaaaattt tagttttagc 2800 ctatcactca tgtcaatcat atctatgaga caaatgtctc cgatgctctt 2850 ctgcgtaaat taaattgtgt actgaaggga aaagtttgat cataccaaac 2900 atttcctaaa ctctctagtt agatatctga cttgggagta ttaaaaattg 2950 ggtctatgac atactgtcca aaaggaatgc tgttcttaaa gcattattta 3000 cagtaggaac tggggagtaa atctgttccc tacagtttgc tgctgagctg 3050 gaagctgtgg gggaaggagt tgacaggtgg gcccagtgaa cttttccagt 3100 aaatgaagca agcactgaat aaaaacctcc tgaactggga acaaagatct 3150 acaggcaagc aagatgccca cacaacaggc ttattttctg tgaaggaacc 3200 aactgatete ecceaecett ggattagagt teetgeteta eettaceeac 3250 agataacaca tgttgtttct acttgtaaat gtaaagtctt taaaataaac 3300 tattacagat aaaaaa 3316

```
<210> 86
```

<sup>&</sup>lt;211> 739

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 86

Met Asp Ala Leu Lys Pro Pro Cys Leu Trp Arg Asn His Glu Arg
1 5 10 15

Gly Lys Lys Asp Arg Asp Ser Cys Gly Arg Lys Asn Ser Glu Pro
20 25 30

Gly Ser Pro His Ser Leu Glu Ala Leu Arg Asp Ala Ala Pro Ser Gln Gly Leu Asn Phe Leu Leu Phe Thr Lys Met Leu Phe Ile Phe Asn Phe Leu Phe Ser Pro Leu Pro Thr Pro Ala Leu Ile Cys Ile Leu Thr Phe Gly Ala Ala Ile Phe Leu Trp Leu Ile Thr Arg Pro Gln Pro Val Leu Pro Leu Leu Asp Leu Asn Asn Gln Ser Val Gly Ile Glu Gly Gly Ala Arg Lys Gly Val Ser Gln Lys Asn Asn Asp Leu Thr Ser Cys Cys Phe Ser Asp Ala Lys Thr Met Tyr Glu Val Phe Gln Arg Gly Leu Ala Val Ser Asp Asn Gly Pro Cys Leu Gly Tyr Arg Lys Pro Asn Gln Pro Tyr Arg Trp Leu Ser Tyr Lys 155 Gln Val Ser Asp Arg Ala Glu Tyr Leu Gly Ser Cys Leu Leu His Lys Gly Tyr Lys Ser Ser Pro Asp Gln Phe Val Gly Ile Phe Ala 185 Gln Asn Arg Pro Glu Trp Ile Ile Ser Glu Leu Ala Cys Tyr Thr Tyr Ser Met Val Ala Val Pro Leu Tyr Asp Thr Leu Gly Pro Glu 215 Ala Ile Val His Ile Val Asn Lys Ala Asp Ile Ala Met Val Ile Cys Asp Thr Pro Gln Lys Ala Leu Val Leu Ile Gly Asn Val Glu 245 Lys Gly Phe Thr Pro Ser Leu Lys Val Ile Ile Leu Met Asp Pro Phe Asp Asp Leu Lys Gln Arg Gly Glu Lys Ser Gly Ile Glu 275 Ile Leu Ser Leu Tyr Asp Ala Glu Asn Leu Gly Lys Glu His Phe 295 Arg Lys Pro Val Pro Pro Ser Pro Glu Asp Leu Ser Val Ile Cys 305 310 315 Phe Thr Ser Gly Thr Thr Gly Asp Pro Lys Gly Ala Met Ile Thr

				320					325					330
His	Gln	Asn	Ile	Val 335	Ser	Asn	Ala	Ala	Ala 340	Phe	Leu	Lys	Cys	Val 345
Glu	His	Ala	Tyr	Glu 350	Pro	Thr	Pro	Asp	Asp 355	Val	Ala	Ile	Ser	Tyr 360
Leu	Pro	Leu	Ala	His 365	Met	Phe	Glu	Arg	Ile 370	Val	Gln	Ala	Val	Val 375
Tyr	Ser	Cys	Gly	Ala 380	Arg	Val	Gly	Phe	Phe 385	Gln	Gly	Asp	Ile	Arg 390
Leu	Leu	Ala	Asp	Asp 395	Met	Lys	Thr	Leu	Lys 400	Pro	Thr	Leu	Phe	Pro 405
Ala	Val	Pro	Arg	Leu 410	Leu	Asn	Arg	Ile	Tyr 415	Asp	Lys	Val	Gln	Asn 420
Glu	Ala	Lys	Thr	Pro 425	Leu	Lys	Lys	Phe	Leu 430	Leu	Lys	Leu	Ala	Val 435
Ser	Ser	Lys	Phe	Lys 440	Glu	Leu	Gln	Lys	Gly 445	Ile	Ile	Arg	His	Asp 450
Ser	Phe	Trp	Asp	Lys 455	Leu	Ile	Phe	Ala	Lys 460	Ile	Gln	Asp	Ser	Leu 465
Gly	Gly	Arg	Val	Arg 470	Val	Ile	Val	Thr	Gly 475	Ala	Ala	Pro	Met	Ser 480
Thr	Ser	Val	Met	Thr 485	Phe	Phe	Arg	Ala	Ala 490	Met	Gly	Cys	Gln	Val 495
Tyr	Glu	Ala	Tyr	Gly 500	Gln	Thr	Glu	Суз	Thr 505	Gly	Gly	Cys	Thr	Phe 510
Thr	Leu	Pro	Gly	Asp 515	Trp	Thr	Ser	Gly	His 520	Val	Gly	Val	Pro	Leu 525
Ala	Cys	Asn	Tyr	Val 530	Lys	Leu	Glu	Asp	Val 535	Ala	Asp	Met	Asn	Tyr 540
Phe	Thr	Val	Asn	Asn 545	Glu	Gly	Glu	Val	Cys 550	Ile	Lys	G1y	Thr	Asn 555
Val	Phe	Lys	Gly	Tyr 560	Leu	Lys	Asp	Pro	Glu 565	Lys	Thr	Gln	Glu	Ala 570
Leu	Asp	Ser	Asp	Gly 575	Trp	Leu	His	Thr	Gly 580	Asp	Ile	Gly	Arg	Trp 585
Leu	Pro	Asn	Gly	Thr 590	Leu	Lys	Ile	Ile	Asp 595	Arg	Lys	Lys	Asn	Ile 600
Phe	Lys	Leu	Ala	Gln 605	Gly	Glu	Tyr	Ile	Ala 610	Pro	Glu	Lys	Ile	Glu 615

```
Asn Ile Tyr Asn Arg Ser Gln Pro Val Leu Gln Ile Phe Val His
                620
Gly Glu Ser Leu Arg Ser Ser Leu Val Gly Val Val Pro Asp
                635
                                    640
Thr Asp Val Leu Pro Ser Phe Ala Ala Lys Leu Gly Val Lys Gly
                                                         660
Ser Phe Glu Glu Leu Cys Gln Asn Gln Val Val Arg Glu Ala Ile
                                    670
Leu Glu Asp Leu Gln Lys Ile Gly Lys Glu Ser Gly Leu Lys Thr
                                    685
Phe Glu Gln Val Lys Ala Ile Phe Leu His Pro Glu Pro Phe Ser
                695
                                    700
Ile Glu Asn Gly Leu Leu Thr Pro Thr Leu Lys Ala Lys Arg Gly
Glu Leu Ser Lys Tyr Phe Arg Thr Gln Ile Asp Ser Leu Tyr Glu
                                    730
```

His Ile Gln Asp

<210> 87 <211> 2725 <212> DNA <213> Homo sapiens

<400> 87 ggaggeggag geegggega geegggeega geagtgaggg eeetageggg 50 gcccgagcgg ggcccggggc ccctaagcca ttcctgaagt catgggctgg 100 ccaggacatt ggtgacccgc caatccggta tggacgactg gaagcccagc 150 cccctcatca agccctttgg ggctcggaag aagcggagct ggtaccttac 200 ctggaagtat aaactgacaa accagcgggc cctgcggaga ttctgtcaga 250 caggggccgt gcttttcctg ctggtgactg tcattgtcaa tatcaagttg 300 atcctggaca ctcggcgagc catcagtgaa gccaatgaag acccagagcc 350 agagcaagac tatgatgagg ccctaggccg cctggagccc ccacggcgca 400 gaggcagtgg tccccggcgg gtcctggacg tagaggtgta ttcaagtcgc 450 agcaaagtat atgtggcagt ggatggcacc acggtgctgg aggatgaggc 500 ccgggagcag ggccggggca tccatgtcat tgtcctcaac caggccacgg 550 gccacgtgat ggcaaaacgt gtgtttgaca cgtactcacc tcatgaggat 600 gaggccatgg tgctattcct caacatggta gcgcccggcc gagtgctcat 650

ctgcactgtc aaggatgagg gctccttcca cctcaaggac acagccaagg 700 gacacatggg ccttcgtggg acgaaaagga ggtcctgtct tcggggagaa 800 acattctaag tcacctgccc tctcttcctg gggggaccca gtcctgctga 850 agacagatgt gccattgagc tcagcagaag aggcagagtg ccactgggca 900 gacacagage tgaacegteg eegeeggege ttetgeagea aagttgaggg 950 ctatggaagt gtatgcagct gcaaggaccc cacacccatc gagttcagcc 1000 ctgacccact cccagacaac aaggtcctca atgtgcctgt ggctgtcatt 1050 gcagggaacc gacccaatta cctgtacagg atgctgcgct ctctgctttc 1100 agcccagggg gtgtctcctc agatgataac agttttcatt gacggctact 1150 atgaggaacc catggatgtg gtggcactgt ttggtctgag gggcatccag 1200 catactecea teageateaa gaatgeeege gtgteteage actacaagge 1250 cagcctcact gccactttca acctgtttcc ggaggccaag tttgctgtgg 1300 ttctggaaga ggacctggac attgctgtgg attttttcag tttcctgagc 1350 caatccatcc acctactgga ggaggatgac agcctgtact gcatctctgc 1400 ctggaatgac caggggtatg aacacacggc tgaggaccca gcactactgt 1450 accgtgtgga gaccatgcct gggctgggct gggtgctcag gaggtccttg 1500 tacaaggagg agcttgagcc caagtggcct acaccggaaa agctctggga 1550 ttgggacatg tggatgcgga tgcctgaaca acgccggggc cgagagtgca 1600 tcatccctga cgtttcccga tcctaccact ttggcatcgt cggcctcaac 1650 atgaatggct actttcacga ggcctacttc aagaagcaca agttcaacac 1700 ggttccaggt gtccagctca ggaatgtgga cagtctgaag aaagaagctt 1750 atgaagtgga agttcacagg ctgctcagtg aggctgaggt tctggaccac 1800 agcaagaacc cttgtgaaga ctctttcctg ccagacacag agggccacac 1850 ctacgtggcc tttattcgaa tggagaaaga tgatgacttc accacctgga 1900 cccagcttgc caagtgcctc catatctggg acctggatgt gcgtggcaac 1950 catcggggcc tgtggagatt gtttcggaag aagaaccact tcctggtggt 2000 gggggtcccg gcttccccct actcagtgaa gaagccaccc tcagtcaccc 2050 caattttcct ggagccaccc ccaaaggagg agggagcccc aggagcccca 2100

<210> 88 <211> 660 <212> PRT

<213> Homo sapiens

<400> 88

Met Asp Asp Trp Lys Pro Ser Pro Leu Ile Lys Pro Phe Gly Ala 1 5 10 15

Arg Lys Lys Arg Ser Trp Tyr Leu Thr Trp Lys Tyr Lys Leu Thr 20 25 30

Asn Gln Arg Ala Leu Arg Arg Phe Cys Gln Thr Gly Ala Val Leu 35 40 45

Phe Leu Leu Val Thr Val Ile Val Asn Ile Lys Leu Ile Leu Asp 50 55 60

Thr Arg Arg Ala Ile Ser Glu Ala Asn Glu Asp Pro Glu Pro Glu 65 70 75

Gln Asp Tyr Asp Glu Ala Leu Gly Arg Leu Glu Pro Pro Arg Arg 80 85 90

Arg Gly Ser Gly Pro Arg Arg Val Leu Asp Val Glu Val Tyr Ser 95 100 105

Ser Arg Ser Lys Val Tyr Val Ala Val Asp Gly Thr Thr Val Leu 110 115 120

Glu Asp Glu Ala Arg Glu Gln Gly Arg Gly Ile His Val Ile Val 125 130 135

Leu Asn Gln Ala Thr Gly His Val Met Ala Lys Arg Val Phe Asp Thr Tyr Ser Pro His Glu Asp Glu Ala Met Val Leu Phe Leu Asn Met Val Ala Pro Gly Arg Val Leu Ile Cys Thr Val Lys Asp Glu Gly Ser Phe His Leu Lys Asp Thr Ala Lys Ala Leu Leu Arg Ser 190 Leu Gly Ser Gln Ala Gly Pro Ala Leu Gly Trp Arg Asp Thr Trp Ala Phe Val Gly Arg Lys Gly Gly Pro Val Phe Gly Glu Lys His Ser Lys Ser Pro Ala Leu Ser Ser Trp Gly Asp Pro Val Leu Leu 230 Lys Thr Asp Val Pro Leu Ser Ser Ala Glu Glu Ala Glu Cys His Trp Ala Asp Thr Glu Leu Asn Arg Arg Arg Arg Phe Cys Ser Lys Val Glu Gly Tyr Gly Ser Val Cys Ser Cys Lys Asp Pro Thr Pro Ile Glu Phe Ser Pro Asp Pro Leu Pro Asp Asn Lys Val Leu 290 Asn Val Pro Val Ala Val Ile Ala Gly Asn Arg Pro Asn Tyr Leu 310 Tyr Arg Met Leu Arg Ser Leu Leu Ser Ala Gln Gly Val Ser Pro 320 Gln Met Ile Thr Val Phe Ile Asp Gly Tyr Tyr Glu Glu Pro Met Asp Val Val Ala Leu Phe Gly Leu Arg Gly Ile Gln His Thr Pro 350 Ile Ser Ile Lys Asn Ala Arg Val Ser Gln His Tyr Lys Ala Ser Leu Thr Ala Thr Phe Asn Leu Phe Pro Glu Ala Lys Phe Ala Val 380 Val Leu Glu Glu Asp Leu Asp Ile Ala Val Asp Phe Phe Ser Phe Leu Ser Gln Ser Ile His Leu Leu Glu Glu Asp Asp Ser Leu Tyr 410 Cys Ile Ser Ala Trp Asn Asp Gln Gly Tyr Glu His Thr Ala Glu

				425					430					435
Asp	Pro	Ala	Leu	Leu 440	Tyr	Arg	Val	Glu	Thr 445	Met	Pro	Gly	Leu	Gly 450
Trp	Val	Leu	Arg	Arg 455	Ser	Leu	Tyr	Lys	Glu 460	Glu	Leu	Glu	Pro	Lys 465
Trp	Pro	Thr	Pro	Glu 470	Lys	Leu	Trp	Asp	Trp 475	Asp	Met	Trp	Met	Arg 480
Met	Pro	Glu	Gln	Arg 485	Arg	Gly	Arg	Glu	Cys 490	Ile	Ile	Pro	Asp	Val 495
Ser	Arg	Ser	Tyr	His 500	Phe	Gly	Ile	Val	Gly 505	Leu	Asn	Met	Asn	Gly 510
Tyr	Phe	His	Glu	Ala 515	Tyr	Phe	Lys	Lys	His 520	Lys	Phe	Asn	Thr	Val 525
Pro	Gly	Val	Gln	Leu 530	Arg	Asn	Val	Asp	Ser 535	Leu	Lys	Lys	Glu	Ala 540
Tyr	Glu	Val	Glu	Val 545	His	Arg	Leu	Leu	Ser 550	Glu	Ala	Glu	Val	Leu 555
Asp	His	Ser	Lys	Asn 560	Pro	Cys	Glu	Asp	Ser 565	Phe	Leu	Pro	Asp	Thr 570
Glu	Gly	His	Thr	Tyr 575	Val	Ala	Phe	Ile	Arg 580	Met	Glu	Lys	Asp	Asp 585
Asp	Phe	Thr	Thr	Trp 590	Thr	Gln	Leu	Ala	Lys 595	Cys	Leu	His	Ile	Trp 600
Asp	Leu	Asp	Val	Arg 605	Gly	Asn	His	Arg	Gly 610	Leu	Trp	Arg	Leu	Phe 615
Arg	Lys	Lys	Asn	His 620	Phe	Leu	Val	Val	Gly 625	Val	Pro	Ala	Ser	Pro 630
Tyr	Ser	Val	Lys	Lys 635	Pro	Pro	Ser	Val	Thr 640	Pro	Ile	Phe	Leu	Glu 645
Pro	Pro	Pro	Lys	Glu 650	Glu	Gly	Ala	Pro	Gly 655	Ala	Pro	Glu	Gln	Thr 660
<210><211><211>	25													

<212> DNA

<213> Artificial

<220>

<221> Artificial sequence

<222> 1-25

<223> Synthetic construct.

<400> 89

```
gatggcaaaa cgtgtgtttg acacg 25
<210> 90
<211> 22
<212> DNA
<213> Artificial
<220>
<221> Artificial sequence
<222> 1-22
<223> Synthetic construct.
<400> 90
 cctcaaccag gccacgggcc ac 22
<210> 91
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial sequence
<222> 1-24
<223> Synthetic construct.
<400> 91
 cccaggcaga gatgcagtac aggc 24
<210> 92
<211> 26
<212> DNA
<213> Artificial
<220>
<221> Artificial sequence
<222> 1-26
<223> Synthetic construct.
<400> 92
 cctccagtag gtggatggat tggctc 26
<210> 93
<211> 47
<212> DNA
<213> Artificial
<220>
<221> Artificial sequence
<222> 1-47
<223> Synthetic construct.
ctcacctcat gaggatgagg ccatggtgct attcctcaac atggtag 47
<210> 94
<211> 3037
<212> DNA
<213> Homo sapiens
```

<400> 94 cggacgcgtg ggctgctggt gggaaggcct aaagaactgg aaagcccact 50 ctcttggaac caccacacct gtttaaagaa cctaagcacc atttaaagcc 100 actggaaatt tgttgtctag tggttgtggg tgaataaagg agggcagaat 150 ggatgatttc atctccatta gcctgctgtc tctggctatg ttggtgggat 200 gttacgtggc cggaatcatt cccttggctg ttaatttctc agaggaacga 250 ctgaagctgg tgactgtttt gggtgctggc cttctctgtg gaactgctct 300 ggcagtcatc gtgcctgaag gagtacatgc cctttatgaa gatattcttg 350 agggaaaaca ccaccaagca agtgaaacac ataatgtgat tgcatcagac 400 aaagcagcag aaaaatcagt tgtccatgaa catgagcaca gccacgacca 450 cacacagctg catgcctata ttggtgtttc cctcgttctg ggcttcgttt 500 tcatgttgct ggtggaccag attggtaact cccatgtgca ttctactgac 550 gatccagaag cagcaaggtc tagcaattcc aaaatcacca ccacgctggg 600 tctggttgtc catgctgcag ctgatggtgt tgctttggga gcagcagcat 650 ctacttcaca gaccagtgtc cagttaattg tgtttgtggc aatcatgcta 700 cataaggcac cagctgcttt tggactggtt tccttcttga tgcatgctgg 750 cttagagcgg aatcgaatca gaaagcactt gctggtcttt gcattggcag 800 caccagttat gtccatggtg acatacttag gactgagtaa gagcagtaaa 850 gaagcccttt cagaggtgaa cgccacggga gtggccatgc ttttctctgc 900 cgggacattt ctttatgttg ccacagtaca tgtcctccct gaggtgggcg 950 gaatagggca cagccacaag cccgatgcca cgggagggag aggcctcagc 1000 cgcctggaag tggcagccct ggttctgggt tgcctcatcc ctctcatcct 1050 gtcagtagga caccagcatt aaatgttcaa ggtccagcct tggtccaggg 1100 ccgtttgcca tccagtgaga acagccggca cgtgacagct actcacttcc 1150 tcagtctctt gtctcacctt gcgcatctct acatgtattc ctagagtcca 1200 gaggggaggt gaggttaaaa cctgagtaat ggaaaagctt ttagagtaga 1250 aacacattta cgttgcagtt agctatagac atcccattgt gttatctttt 1300 aaaaggccct tgacattttg cgttttaata tttctcttaa ccctattctc 1350 agggaagatg gaatttagtt ttaaggaaaa gaggagaact tcatactcac 1400 aatgaaatag tgattatgaa aatacagtgt tctgtaatta agctatgtct 1450

ctttcttctt agtttagagg ctctgctact ttatccattg atttttaaca 1500 tggttcccac catgtaagac tggtgcttta gcatctatgc cacatgcgtt 1550 gatggaaggt catagcaccc actcacttag atgctaaagg tgattctagt 1600 taatctggga ttagggtcag gaaaatgata gcaagacaca ttgaaagctc 1650 tctttatact caaaagagat atccattgaa aagggatgtc tagagggatt 1700 taaacagctc ctttggcacg tgcctctctg aatccagcct gccattccat 1750 caaatggagc aggagaggtg ggaggagctt ctaaagaggt gactggtatt 1800 ttgtagcatt ccttgtcaag ttctcctttg cagaatacct gtctccacat 1850 tcctagagag gagccaagtt ctagtagttt cagttctagg ctttccttca 1900 agaacagtca gatcacaaag tgtctttgga aattaaggga tattaaattt 1950 taagtgattt ttggatggtt attgatatct ttgtagtagc tttttttaaa 2000 agactaccaa aatgtatggt tgtccttttt ttttgttttt ttttttttta 2050 attatttctc ttagcagatc agcaatccct ctagggacct aaatactagg 2100 tcagctttgg cgacactgtg tcttctcaca taaccacctg tagcaagatg 2150 gatcataaat gagaagtgtt tgcctattga tttaaagctt attggaatca 2200 tgtctcttgt ctcttcgtct tttctttgct tttcttctaa cttttccctc 2250 tagcctctcc tcgccacaat ttgctgctta ctgctggtgt taatatttgt 2300 gtgggatgaa ttcttatcag gacaaccact tctcgaactg taataatgaa 2350 gataataata totttattot ttatocoott caaagaaatt acotttgtgt 2400 caaatgccgc tttgttgagc ccttaaaata ccacctcctc atgtgtaaat 2450 tgacacaatc actaatctgg taatttaaac aattgagata gcaaaagtgt 2500 ttaacagact aggataattt ttttttcata tttgccaaaa tttttgtaaa 2550 ccctgtcttg tcaaataagt gtataatatt gtattattaa tttatttta 2600 ctttctatac catttcaaaa cacattacac taagggggaa ccaagactag 2650 tttcttcagg gcagtggacg tagtagtttg taaaaacgtt ttctatgacg 2700 cataagctag catgcctatg atttatttcc ttcatgaatt tgtcactgga 2750 tcagcagctg tggaaataaa gcttgtgagc cctctgctgg ccacagtgag 2800 gaaagtagca caaataggat acagttgtat gtagtcattg gcaacaattg 2850 catacaattt tactaccaag agaaggtata gtatggaaag tccaaatgac 2900

ttccttgatt ggatgttaac agctgactgg tgtgagactt gaggtttcat 2950 ctagtccttc aaaactatat ggttgcctag attctctctg gaaactgact 3000 ttgtcaaata aatagcagat tgtagtgtca aaaaaaa 3037

<210> 95

<211> 307

<212> PRT

<213> Homo sapiens

<400> 95

Met Asp Asp Phe Ile Ser Ile Ser Leu Leu Ser Leu Ala Met Leu
1 5 10 15

Val Gly Cys Tyr Val Ala Gly Ile Ile Pro Leu Ala Val Asn Phe 20 25 30

Ser Glu Glu Arg Leu Lys Leu Val Thr Val Leu Gly Ala Gly Leu
35 40 45

Leu Cys Gly Thr Ala Leu Ala Val Ile Val Pro Glu Gly Val His
50 55 60

Ala Leu Tyr Glu Asp Ile Leu Glu Gly Lys His His Gln Ala Ser 65 70 75

Glu Thr His Asn Val Ile Ala Ser Asp Lys Ala Ala Glu Lys Ser 80 85 90

Val Val His Glu His Glu His Ser His Asp His Thr Gln Leu His
95 100 105

Ala Tyr Ile Gly Val Ser Leu Val Leu Gly Phe Val Phe Met Leu 110 115 120

Leu Val Asp Gln Ile Gly Asn Ser His Val His Ser Thr Asp Asp 125 130 135

Pro Glu Ala Ala Arg Ser Ser Asn Ser Lys Ile Thr Thr Leu
140 145 150

Gly Leu Val Val His Ala Ala Ala Asp Gly Val Ala Leu Gly Ala 155 160 165

Ala Ala Ser Thr Ser Gln Thr Ser Val Gln Leu Ile Val Phe Val
170 175 180

Ala Ile Met Leu His Lys Ala Pro Ala Ala Phe Gly Leu Val Ser 185 190 195

Phe Leu Met His Ala Gly Leu Glu Arg Asn Arg Ile Arg Lys His 200 205 210

Leu Leu Val Phe Ala Leu Ala Ala Pro Val Met Ser Met Val Thr 215 220 225

Tyr Leu Gly Leu Ser Lys Ser Ser Lys Glu Ala Leu Ser Glu Val

235 240 Asn Ala Thr Gly Val Ala Met Leu Phe Ser Ala Gly Thr Phe Leu 250 Tyr Val Ala Thr Val His Val Leu Pro Glu Val Gly Gly Ile Gly His Ser His Lys Pro Asp Ala Thr Gly Gly Arg Gly Leu Ser Arg Leu Glu Val Ala Ala Leu Val Leu Gly Cys Leu Ile Pro Leu Ile 295 Leu Ser Val Gly His Gln His 305 <210> 96 <211> 25 <212> DNA <213> Artificial <220> <221> Artificial sequence <222> 1-25 <223> Synthetic construct. <400> 96 gttgtgggtg aataaaggag ggcag 25 <210> 97 <211> 25 <212> DNA <213> Artificial <220> <221> Artificial sequence <222> 1-25 <223> Synthetic construct. <400> 97 ctgtgctcat gttcatggac aactg 25 <210> 98 <211> 50 <212> DNA <213> Artificial <220> <221> Artificial sequence <222> 1-50 <223> Synthetic construct. ggatgatttc atctccatta gcctgctgtc tctggctatg ttggtgggat 50 <210> 99 <211> 1429

230

<212> DNA <213> Homo sapiens

<400> 99 gctcgaggcc ggcggcggcg ggagagcgac ccgggcggcc tcgtagcggg 50 gccccggatc cccgagtggc ggccggagcc tcgaaaagag attctcagcg 100 ctgattttga gatgatgggc ttgggaaacg ggcgtcgcag catgaagtcg 150 ccgcccctcg tgctggccgc cctggtggcc tgcatcatcg tcttgggctt 200 caactactgg attgcgagct cccggagcgt ggacctccag acacggatca 250 tggagctgga aggcagggtc cgcagggcgg ctgcagagag aggcgccgtg 300 gagctgaaga agaacgagtt ccagggagag ctggagaagc agcgggagca 350 gcttgacaaa atccagtcca gccacaactt ccagctggag agcgtcaaca 400 agctgtacca ggacgaaaag gcggttttgg tgaataacat caccacaggt 450 gagaggetea teegagtget geaagaceag ttaaagaeee tgeagaggaa 500 ttacggcagg ctgcagcagg atgtcctcca gtttcagaag aaccagacca 550 acctggagag gaagttctcc tacgacctga gccagtgcat caatcagatg 600 aaggaggtga aggaacagtg tgaggagcga atagaagagg tcaccaaaaa 650 ggggaatgaa gctgtagctt ccagagacct gagtgaaaac aacgaccaga 700 gacagcagct ccaagccctc agtgagcctc agcccaggct gcaggcagca 750 ggcctgccac acacagaggt gccacaaggg aagggaaacg tgcttggtaa 800 cagcaagtcc cagacaccag cccccagttc cgaagtggtt ttggattcaa 850 agagacaagt tgagaaagag gaaaccaatg agatccaggt ggtgaatgag 900 gagcctcaga gggacaggct gccgcaggag ccaggccggg agcaggtggt 950 ggaagacaga cctgtaggtg gaagaggctt cgggggagcc ggagaactgg 1000 gccagacccc acaggtgcag gctgccctgt cagtgagcca ggaaaatcca 1050 gagatggagg gccctgagcg agaccagctt gtcatccccg acggacagga 1100 ggaggagcag gaagctgccg gggaagggag aaaccagcag aaactgagag 1150 gagaagatga ctacaacatg gatgaaaatg aagcagaatc tgagacagac 1200 aagcaagcag ccctggcagg gaatgacaga aacatagatg tttttaatgt 1250 tgaagatcag aaaagagaca ccataaattt acttgatcag cgtgaaaagc 1300 ggaatcatac actctgaatt gaactggaat cacatatttc acaacagggc 1350

cgaagagatg actataaaat gttcatgagg gactgaatac tgaaaactgt 1400 gaaatgtact aaataaaatg tacatctga 1429

<210> 100

<211> 401

<212> PRT

<213> Homo sapiens

<400> 100

Met Met Gly Leu Gly Asn Gly Arg Arg Ser Met Lys Ser Pro Pro 1 5 10 15

Leu Val Leu Ala Ala Leu Val Ala Cys Ile Ile Val Leu Gly Phe
20 25 30

Asn Tyr Trp Ile Ala Ser Ser Arg Ser Val Asp Leu Gln Thr Arg
35 40 45

Ile Met Glu Leu Glu Gly Arg Val Arg Arg Ala Ala Glu Arg 50 55 60

Gly Ala Val Glu Leu Lys Lys Asn Glu Phe Gln Gly Glu Leu Glu
65 70 75

Lys Gln Arg Glu Gln Leu Asp Lys Ile Gln Ser Ser His Asn Phe 80 85 90

Gln Leu Glu Ser Val Asn Lys Leu Tyr Gln Asp Glu Lys Ala Val 95 100 105

Leu Val Asn Asn Ile Thr Thr Gly Glu Arg Leu Ile Arg Val Leu 110 115 120

Gln Asp Gln Leu Lys Thr Leu Gln Arg Asn Tyr Gly Arg Leu Gln
125 130 135

Gln Asp Val Leu Gln Phe Gln Lys Asn Gln Thr Asn Leu Glu Arg

Lys Phe Ser Tyr Asp Leu Ser Gln Cys Ile Asn Gln Met Lys Glu 155 160 165

Val Lys Glu Glu Cys Glu Glu Arg Ile Glu Glu Val Thr Lys Lys 170 175 180

Gly Asn Glu Ala Val Ala Ser Arg Asp Leu Ser Glu Asn Asn Asp 185 190 195

Gln Arg Gln Gln Leu Gln Ala Leu Ser Glu Pro Gln Pro Arg Leu 200 205 210

Gln Ala Ala Gly Leu Pro His Thr Glu Val Pro Gln Gly Lys Gly 215 220 225

Asn Val Leu Gly Asn Ser Lys Ser Gln Thr Pro Ala Pro Ser Ser 230 235 240

```
Glu Val Val Leu Asp Ser Lys Arg Gln Val Glu Lys Glu Glu Thr
Asn Glu Ile Gln Val Val Asn Glu Glu Pro Gln Arg Asp Arg Leu
                260
Pro Gln Glu Pro Gly Arg Glu Gln Val Val Glu Asp Arg Pro Val
Gly Gly Arg Gly Phe Gly Gly Ala Gly Glu Leu Gly Gln Thr Pro
Gln Val Gln Ala Ala Leu Ser Val Ser Gln Glu Asn Pro Glu Met
                305
                                    310
                                                         315
Glu Gly Pro Glu Arg Asp Gln Leu Val Ile Pro Asp Gly Gln Glu
Glu Glu Gln Glu Ala Ala Gly Glu Gly Arg Asn Gln Gln Lys Leu
                335
Arg Gly Glu Asp Asp Tyr Asn Met Asp Glu Asn Glu Ala Glu Ser
                350
Glu Thr Asp Lys Gln Ala Ala Leu Ala Gly Asn Asp Arg Asn Ile
                365
Asp Val Phe Asn Val Glu Asp Gln Lys Arg Asp Thr Ile Asn Leu
                380
Leu Asp Gln Arg Glu Lys Arg Asn His Thr Leu
                395
                                    400
```

<210> 101 <211> 3671 <212> DNA <213> Homo sapiens

<400> 101
ggatgcagaa agcctcagtg ttgctcttcc tggcctgggt ctgcttcctc 50

ttctacgctg gcattgccct cttcaccagt ggcttcctgc tcacccgttt 100
ggagctcacc aaccatagca gctgccaaga gcccccaggc cctgggtccc 150
tgccatgggg gagccaaggg aaacctgggg cctgctggat ggcttcccga 200
ttttcgcggg ttgtgttggt gctgatagat gctctgcgat ttgacttcgc 250
ccagccccag cattcacacg tgcctagaga gcctcctgtc tccctaccct 300
tcctgggcaa actaagctcc ttgcagaga tcctggagat tcagccccac 350
catgcccggc tctaccgatc tcaggttgac cctcctacca ccaccatgca 400
gcgcctcaag gccctcacca ctggctcact gcctaccttt attgatgctg 450

gtagtaactt cgccagccac gccatagtgg aagacaatct cattaagcag 500

ctcaccagtg caggaaggcg tgtagtcttc atgggagatg atacctggaa 550 agaccttttc cctggtgctt tctccaaagc tttcttcttc ccatccttca 600 atgtcagaga cctagacaca gtggacaatg gcatcctgga acacctctac 650 cccaccatgg acagtggtga atgggacgtg ctgattgctc acttcctggg 700 tgtggaccac tgtggccaca agcatggccc tcaccaccct gaaatggcca 750 agaaacttag ccagatggac caggtgatcc agggacttgt ggagcgtctg 800 gagaatgaca cactgctggt agtggctggg gaccatggga tgaccacaaa 850 tggagaccat ggaggggaca gtgagctgga ggtctcagct gctctctttc 900 tgtatagccc cacagcagtc ttccccagca ccccaccaga ggagccagag 950 gtgattcctc aagttagcct tgtgcccacg ctggccctgc tgctgggcct 1000 gcccatccca tttgggaata tcggggaagt gatggctgag ctattctcag 1050 ggggtgagga ctcccagccc cactcctctg ctttagccca agcctcagct 1100 ctccatctca atgctcagca ggtgtcccga tttcttcata cctactcagc 1150 tgctactcag gaccttcaag ctaaggagct tcatcagctg cagaacctct 1200 tctccaaggc ctctgctgac taccagtggc ttctccagag ccccaagggg 1250 gctgaggcga cactgccgac tgtgattgct gagctgcagc agttcctgcg 1300 gggagctcgg gccatgtgca tcgagtcttg ggctcgtttc tctctggtcc 1350 gcatggcggg gggtactgct ctcttggctg cttcctgctt tatctgcctg 1400 ctggcatctc agtgggcaat atccccaggc tttccattct gccctctact 1450 cctgacacct gtggcctggg gcctggttgg ggccatagcg tatgctggac 1500 tcctgggaac tattgagctg aagctagatc tagtgcttct aggggctgtg 1550 gctgcagtga gctcattcct cccttttctg tggaaagcct gggctggctg 1600 ggggtccaag aggcccctgg caaccctgtt tcccatccct gggcccgtcc 1650 tgttactcct gctgtttcgc ttggctgtgt tcttctctga tagttttgtt 1700 gtagctgagg ccagggccac ccccttcctt ttgggctcat tcatcctgct 1750 cctggttgtc cagcttcact gggagggcca gctgcttcca cctaagctac 1800 tcacaatgcc ccgccttggc acttcagcca caacaaaccc cccacggcac 1850 aatggtgcat atgccctgag gcttggaatt gggttgcttt tatgtacaag 1900 gctagctggg ctttttcatc gttgccctga agagacacct gtttgccact 1950

cctctccctg gctgagtcct ctggcatcca tggtgggtgg tcgagccaag 2000 aatttatggt atggagcttg tgtggcggcg ctggtggccc tgttagctgc 2050 cgtgcgcttg tggcttcgcc gctatggtaa tctcaagagc cccgagccac 2100 ccatgctctt tgtgcgctgg ggactgcccc taatggcatt gggtactgct 2150 gcctactggg cattggcgtc gggggcagat gaggctcccc cccgtctccg 2200 ggtcctggtc tctggggcat ccatggtgct gcctcgggct gtagcagggc 2250 tggctgcttc agggctcgcg ctgctgctct ggaagcctgt gacagtgctg 2300 gtgaaggctg gggcaggcgc tccaaggacc aggactgtcc tcactccctt 2350 ctcaggcccc cccacttctc aagctgactt ggattatgtg gtccctcaaa 2400 tctaccgaca catgcaggag gagttccggg gccggttaga gaggaccaaa 2450 tctcagggtc ccctgactgt ggctgcttat cagttgggga gtgtctactc 2500 agctgctatg gtcacagccc tcaccctgtt ggccttccca cttctgctgt 2550 tgcatgcgga gcgcatcagc cttgtgttcc tgcttctgtt tctgcagagc 2600 ttccttctcc tacatctgct tgctgctggg atacccgtca ccacccctgg 2650 teettttaet gtgeeatgge aggeagtete ggettgggee eteatggeea 2700 cacagacett ctactecaca ggecaceage etgtetttee agecatecat 2750 tggcatgcag ccttcgtggg attcccagag ggtcatggct cctgtacttg 2800 gctgcctgct ttgctagtgg gagccaacac ctttgcctcc cacctcctct 2850 ttgcagtagg ttgcccactg ctcctgctct ggcctttcct gtgtgagagt 2900 caagggctgc ggaagagaca gcagcccca gggaatgaag ctgatgccag 2950 agtcagaccc gaggaggaag aggagccact gatggagatg cggctccggg 3000 atgcgcctca gcacttctat gcagcactgc tgcagctggg cctcaagtac 3050 ctctttatcc ttggtattca gattctggcc tgtgccttgg cagcctccat 3100 ccttcgcagg catctcatgg tctggaaagt gtttgcccct aagttcatat 3150 ttgaggctgt gggcttcatt gtgagcagcg tgggacttct cctgggcata 3200 gctttggtga tgagagtgga tggtgctgtg agctcctggt tcaggcagct 3250 atttctggcc cagcagaggt agcctagtct gtgattactg gcacttggct 3300 acagagagtg ctggagaaca gtgtagcctg gcctgtacag gtactggatg 3350 atctgcaaga caggctcagc catactctta ctatcatgca gccaggggcc 3400

gctgacatct aggacttcat tattctataa ttcaggacca cagtggagta 3450 tgatccctaa ctcctgattt ggatgcatct gagggacaag gggggcggtc 3500 tccgaagtgg aataaaatag gccgggcgtg gtgacttgca cctataatcc 3550 cagcactttg ggaggcagag gtgggaggat tgcttggtcc caggagttca 3600 agaccagcct gtggaacata acaagacccc gtctctacta tttaaaaaaa 3650 agtgtaataa aatgataata t 3671

<210> 102

<211> 1089

<212> PRT

<213> Homo sapiens

<400> 102

Met Gln Lys Ala Ser Val Leu Leu Phe Leu Ala Trp Val Cys Phe 1 5 10 15

Leu Phe Tyr Ala Gly Ile Ala Leu Phe Thr Ser Gly Phe Leu Leu 20 25 30

Thr Arg Leu Glu Leu Thr Asn His Ser Ser Cys Gln Glu Pro Pro 35 40 45

Gly Pro Gly Ser Leu Pro Trp Gly Ser Gln Gly Lys Pro Gly Ala
50 55 60

Cys Trp Met Ala Ser Arg Phe Ser Arg Val Val Leu Val Leu Ile
65 70 75

Asp Ala Leu Arg Phe Asp Phe Ala Gln Pro Gln His Ser His Val 80 85 90

Pro Arg Glu Pro Pro Val Ser Leu Pro Phe Leu Gly Lys Leu Ser 95 100 105

Ser Leu Gln Arg Ile Leu Glu Ile Gln Pro His His Ala Arg Leu 110 115 120

Tyr Arg Ser Gln Val Asp Pro Pro Thr Thr Thr Met Gln Arg Leu 125 130 135

Lys Ala Leu Thr Thr Gly Ser Leu Pro Thr Phe Ile Asp Ala Gly
140 145 150

Ser Asn Phe Ala Ser His Ala Ile Val Glu Asp Asn Leu Ile Lys 155 160 165

Gln Leu Thr Ser Ala Gly Arg Arg Val Val Phe Met Gly Asp Asp 170 175 180

Thr Trp Lys Asp Leu Phe Pro Gly Ala Phe Ser Lys Ala Phe Phe 185 190 195

Phe Pro Ser Phe Asn Val Arg Asp Leu Asp Thr Val Asp Asn Gly

				200					205					210
Ile	Leu	Glu	His	Leu 215	Tyr	Pro	Thr	Met	Asp 220	Ser	Gly	Glu	Trp	Asp 225
Val	Leu	Ile	Ala	His 230	Phe	Leu	Gly	Val	Asp 235	His	Cys	Gly	His	Lys 240
His	Gly	Pro	His	His 245	Pro	Glu	Met	Ala	Lys 250	Lys	Leu	Ser	Gln	Met 255
Asp	Gln	Val	Ile	Gln 260	Gly	Leu	Val	Glu	Arg 265	Leu	Glu	Asn	Asp	Thr 270
Leu	Leu	Val	Val	Ala 275	Gly	Asp	His	Gly	Met 280	Thr	Thr	Asn	Gly	Asp 285
His	Gly	Gly	Asp	Ser 290	Glu	Leu	Glu	Val	Ser 295	Ala	Ala	Leu	Phe	Leu 300
Tyr	Ser	Pro	Thr	Ala 305	Val	Phe	Pro	Ser	Thr 310	Pro	Pro	Glu	Glu	Pro 315
Glu	Val	Ile	Pro	Gln 320	Val	Ser	Leu	Val	Pro 325	Thr	Leu	Ala	Leu	Leu 330
Leu	Gly	Leu	Pro	Ile 335	Pro	Phe	Gly	Asn	Ile 340	Gly	Glu	Val	Met	Ala 345
Glu	Leu	Phe	Ser	Gly 350	Gly	Glu	Asp	Ser	Gln 355	Pro	His	Ser	Ser	Ala 360
Leu	Ala	Gln	Ala	Ser 365	Ala	Leu	His	Leu	Asn 370	Ala	Gln	Gln	Val	Ser 375
Arg	Phe	Leu	His	Thr 380	Tyr	Ser	Ala	Ala	Thr 385	Gln	Asp	Leu	Gln	Ala 390
Lys	Glu	Leu	His	Gln 395	Leu	Gln	Asn	Leu	Phe 400	Ser	Lys	Ala	Ser	Ala 405
Asp	Tyr	Gln	Trp	Leu 410	Leu	Gln	Ser	Pro	Lys 415	Gly	Ala	Glu	Ala	Thr 420
Leu	Pro	Thr	Val	Ile 425	Ala	Glu	Leu	Gln	Gln 430	Phe	Leu	Arg	Gly	Ala 435
Arg	Ala	Met	Cys	Ile 440	Glu	Ser	Trp	Ala	Arg 445	Phe	Ser	Leu	Val	Arg 450
Met	Ala	Gly	Gly	Thr 455	Ala	Leu	Leu	Ala	Ala 460	Ser	Cys	Phe	Ile	Cys 465
Leu	Leu	Ala	Ser	Gln 470	Trp	Ala	Ile	Ser	Pro 475	Gly	Phe	Pro	Phe	Cys 480
Pro	Leu	Leu	Leu	Thr 485	Pro	Val	Ala	Trp	Gly 490	Leu	Val	Gly	Ala	Ile 495

Ala Tyr Ala Gly Leu Leu Gly Thr Ile Glu Leu Lys Leu Asp Leu Val Leu Leu Gly Ala Val Ala Ala Val Ser Ser Phe Leu Pro Phe Leu Trp Lys Ala Trp Ala Gly Trp Gly Ser Lys Arg Pro Leu Ala Thr Leu Phe Pro Ile Pro Gly Pro Val Leu Leu Leu Leu Phe 550 Arg Leu Ala Val Phe Phe Ser Asp Ser Phe Val Val Ala Glu Ala 560 565 Arg Ala Thr Pro Phe Leu Leu Gly Ser Phe Ile Leu Leu Val Val Gln Leu His Trp Glu Gly Gln Leu Leu Pro Pro Lys Leu Leu Thr Met Pro Arg Leu Gly Thr Ser Ala Thr Thr Asn Pro Pro Arg His Asn Gly Ala Tyr Ala Leu Arg Leu Gly Ile Gly Leu Leu Cys Thr Arg Leu Ala Gly Leu Phe His Arg Cys Pro Glu Glu Thr Pro Val Cys His Ser Ser Pro Trp Leu Ser Pro Leu Ala Ser Met Val Gly Gly Arg Ala Lys Asn Leu Trp Tyr Gly Ala Cys Val Ala Ala Leu Val Ala Leu Leu Ala Ala Val Arg Leu Trp Leu Arg Arg Tyr Gly Asn Leu Lys Ser Pro Glu Pro Pro Met Leu Phe Val Arg Trp Gly Leu Pro Leu Met Ala Leu Gly Thr Ala Ala Tyr Trp Ala 710 715 Leu Ala Ser Gly Ala Asp Glu Ala Pro Pro Arg Leu Arg Val Leu Val Ser Gly Ala Ser Met Val Leu Pro Arg Ala Val Ala Gly Leu Ala Ala Ser Gly Leu Ala Leu Leu Leu Trp Lys Pro Val Thr Val Leu Val Lys Ala Gly Ala Gly Ala Pro Arg Thr Arg Thr Val Leu Thr Pro Phe Ser Gly Pro Pro Thr Ser Gln Ala Asp Leu Asp Tyr

				785					790	1				795
Val	Val	Pro	Gln	Ile 800	Tyr	Arg	His	Met	Gln 805		Glu	Phe	Arg	Gl <u>s</u> 810
Arg	Leu	Glu	Arg	Thr 815	Lys	Ser	Gln	Gly	Pro 820		Thr	Val	Ala	Ala 825
Tyr	Gln	Leu	Gly	Ser 830	Val	Tyr	Ser	Ala	Ala 835		Val	Thr	Ala	Let 840
Thr	Leu	Leu	Ala	Phe 845	Pro	Leu	Leu	Leu	Leu 850		Ala	Glu	Arg	Ile 855
Ser	Leu	Val	Phe	Leu 860	Leu	Leu	Phe	Leu	Gln 865		Phe	Leu	Leu	Leu 870
His	Leu	Leu	Ala	Ala 875	Gly	Ile	Pro	Val	Thr 880	Thr	Pro	Gly	Pro	Phe 885
Thr	Val	Pro	Trp	Gln 890	Ala	Val	Ser	Ala	Trp 895	Ala	Leu	Met	Ala	Thr 900
Gln	Thr	Phe	Tyr	Ser 905	Thr	Gly	His	Gln	Pro 910	Val	Phe	Pro	Ala	Ile 915
His	Trp	His	Ala	Ala 920	Phe	Val	Gly	Phe	Pro 925	Glu	Gly	His	Gly	Ser 930
Cys	Thr	Trp	Leu	Pro 935	Ala	Leu	Leu	Val	Gly 940	Ala	Asn	Thr	Phe	Ala 945
Ser	His	Leu	Leu	Phe 950	Ala	Val	Gly	Cys	Pro 955	Leu	Leu	Leu	Leu	Trp 960
Pro	Phe	Leu	Cys	Glu 965	Ser	Gln	Gly	Leu	Arg 970	Lys	Arg	Gln	Gln	Pro 975
Pro	Gly	Asn	Glu	Ala 980	Asp	Ala	Arg	Val	Arg 985	Pro	Glu	Glu	Glu	Glu 990
Glu	Pro	Leu	Met	Glu 995	Met	Arg	Leu		Asp 1000	Ala	Pro	Gln		Phe 1005
Tyr	Ala	Ala	Leu 1	Leu .010	Gln	Leu	Gly		Lys 1015	Tyr	Leu	Phe		Leu 2020
Gly	Ile	Gln	Ile 1	Leu .025	Ala	Cys	Ala		Ala L030	Ala	Ser	Ile		Arg .035
Arg	His	Leu	Met 1	Val .040	Trp	Lys	Val		Ala L045	Pro	Lys	Phe		Phe .050
Glu	Ala	Val	Gly 1	Phe .055	Ile	Val	Ser		Val L060	Gly	Leu	Leu		Gly .065
Ile	Ala	Leu	Val	Met .070	Arg	Val	Asp		Ala .075	Val	Ser	Ser		Phe

## Arg Gln Leu Phe Leu Ala Gln Gln Arg 1085

<210> 103

<211> 1743

<212> DNA

<213> Homo sapiens

<400> 103

tgccgctgcc gccgctgctg ctgttgctcc tggcggcgcc ttggggacgg 50 gcagttccct gtgtctctgg tggtttgcct aaacctgcaa acatcacctt 100 cttatccatc aacatgaaga atgtcctaca atggactcca ccagagggtc 150 ttcaaggagt taaagttact tacactgtgc agtatttcat cacaaattgg 200 cccaccagag gtggcactga ctacagatga gaagtccatt tctgttgtcc 250 tgacagetee agagaagtgg aagagaaate cagaagacet teetgtttee 300 atgcaacaaa tatactccaa tctgaagtat aacgtgtctg tgttgaatac 350 taaatcaaac agaacgtggt cccagtgtgt gaccaaccac acgctggtgc 400 tcacctggct ggagccgaac actctttact gcgtacacgt ggagtccttc 450 gtcccagggc ccctcgccg tgctcagcct tctgagaagc agtgtgccag 500 gactttgaaa gatcaatcat cagagttcaa ggctaaaatc atcttctggt 550 atgttttgcc catatctatt accgtgtttc ttttttctgt gatgggctat 600 tccatctacc gatatatcca cgttggcaaa gagaaacacc cagcaaattt 650 gattttgatt tatggaaatg aatttgacaa aagattcttt qtqcctqctq 700 aaaaaatcgt gattaacttt atcaccctca atatctcgga tgattctaaa 750 atttctcatc aggatatgag tttactggga aaaagcagtg atgtatccag 800 ccttaatgat cctcagccca gcgggaacct gaggccccct caggaggaag 850 aggaggtgaa acatttaggg tatgcttcgc atttgatgga aattttttgt 900 gactctgaag aaaacacgga aggtacttct ctcacccagc aagagtccct 950 cagcagaaca ataccccgg ataaaacagt cattgaatat gaatatgatg 1000 tcagaaccac tgacatttgt gcggggcctg aagagcagga gctcagtttg 1050 caggaggagg tgtccacaca aggaacatta ttggagtcgc aggcagcgtt 1100 ggcagtcttg ggcccgcaaa cgttacagta ctcatacacc cctcagctcc 1150 aagacttaga ccccctggcg caggagcaca cagactcgga ggaggggccg 1200 gaggaagagc catcgacgac cctggtcgac tgggatcccc aaactggcag 1250

gctgtgtatt ccttcgctgt ccagcttcga ccaggattca gagggctgcg 1300
agccttctga gggggatggg ctcggagagg agggtcttct atctagactc 1350
tatgaggagc cggctccaga caggccacca ggagaaaatg aaacctatct 1400
catgcaattc atggaggaat gggggttata tgtgcagatg gaaaactgat 1450
gccaacactt ccttttgcct tttgtttcct gtgcaaacaa gtgagtcacc 1500
cctttgatcc cagccataaa gtacctggga tgaaagaagt ttttccagt 1550
ttgtcagtgt ctgtgagaat tacttattc ttttctctat tctcatagca 1600
cgtgtgtgat tggttcatgc atgtaggtct cttaacaatg atggtgggcc 1650
tctggagtcc aggggctggc cggttgttct atgcagagaa agcagtcaat 1700
aaatgtttgc cagactggt gcagaattta ttcaggtggg tgt 1743

<210> 104

<211> 442

<212> PRT

<213> Homo sapiens

<400> 104

Met Ser Tyr Asn Gly Leu His Gln Arg Val Phe Lys Glu Leu Lys
1 5 10 15

Leu Leu Thr Leu Cys Ser Ile Ser Ser Gln Ile Gly Pro Pro Glu
20 25 30

Val Ala Leu Thr Thr Asp Glu Lys Ser Ile Ser Val Val Leu Thr 35 40 45

Ala Pro Glu Lys Trp Lys Arg Asn Pro Glu Asp Leu Pro Val Ser 50 55 60

Met Gln Gln Ile Tyr Ser Asn Leu Lys Tyr Asn Val Ser Val Leu 65 70 75

Asn Thr Lys Ser Asn Arg Thr Trp Ser Gln Cys Val Thr Asn His 80 85 90

Thr Leu Val Leu Thr Trp Leu Glu Pro Asn Thr Leu Tyr Cys Val 95 100 105

His Val Glu Ser Phe Val Pro Gly Pro Pro Arg Arg Ala Gln Pro 110 115 120

Ser Glu Lys Gln Cys Ala Arg Thr Leu Lys Asp Gln Ser Ser Glu 125 130 135

Phe Lys Ala Lys Ile Ile Phe Trp Tyr Val Leu Pro Ile Ser Ile 140 145 150

Thr Val Phe Leu Phe Ser Val Met Gly Tyr Ser Ile Tyr Arg Tyr 155 160 165

Ile	His	Val	Gly	Lys 170	Glu	Lys	His	Pro	Ala 175	Asn	Leu	Ile	Leu	Ile 180
Tyr	Gly	Asn	Glu	Phe 185	Asp	Lys	Arg	Phe	Phe 190	Val	Pro	Ala	Glu	Lys 195
Ile	Val	Ile	Asn	Phe 200	Ile	Thr	Leu	Asn	Ile 205	Ser	Asp	Asp	Ser	Lys 210
Ile	Ser	His	Gln	Asp 215	Met	Ser	Leu	Leu	Gly 220	Lys	Ser	Ser	Asp	Val 225
Ser	Ser	Leu	Asn	Asp 230	Pro	Gln	Pro	Ser	Gly 235	Asn	Leu	Arg	Pro	Pro 240
Gln	Glu	Glu	Glu	Glu 245	Val	Lys	His	Leu	Gly 250	Tyr	Ala	Ser	His	Leu 255
Met	Glu	Ile	Phe	Cys 260	Asp	Ser	Glu	Glu	Asn 265	Thr	Glu	Gly	Thr	Ser 270
Leu	Thr	Gln	Gln	Glu 275	Ser	Leu	Ser	Arg	Thr 280	Ile	Pro	Pro	Asp	Lys 285
Thr	Val	Ile	Glu	Tyr 290	Glu	Tyr	Asp	Val	Arg 295	Thr	Thr	Asp	Ile	Cys 300
Ala	Gly	Pro	Glu	Glu 305	Gln	Glu	Leu	Ser	Leu 310	Gln	Glu	Glu	Val	Ser 315
Thr	Gln	Gly	Thr	Leu 320	Leu	Glu	Ser	Gln	Ala 325	Ala	Leu	Ala	Val	Leu 330
Gly	Pro	Gln	Thr	Leu 335		Tyr		Tyr	Thr 340	Pro	Gln	Leu	Gln	Asp 345
Leu	Asp	Pro	Leu	Ala 350	Gln	Glu	His	Thr	Asp 355	Ser	Glu	Glu	Gly	Pro 360
Glu	Glu	Glu	Pro	Ser 365	Thr	Thr	Leu	Val	Asp 370	Trp	Asp	Pro	Gln	Thr 375
Gly	Arg	Leu	Cys	Ile 380	Pro	Ser	Leu	Ser	Ser 385	Phe	Asp	Gln	Asp	Ser 390
Glu	Gly	Cys	Glu	Pro 395	Ser	Glu	Gly	Asp	Gly 400	Leu	Gly	Glu	Glu	Gly 405
Leu	Leu	Ser	Arg	Leu 410	Tyr	Glu	Glu	Pro	Ala 415	Pro	Asp	Arg	Pro	Pro 420
Gly	Glu	Asn	Glu	Thr 425	Tyr	Leu	Met	Gln	Phe 430	Met	Glu	Glu	Trp	Gly 435
Leu	Tyr	Val	Gln	Met 440	Glu	Asn								

<210> 105

```
<211> 21
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-21
<223> Synthetic construct
<400> 105
 cgctgctgct gttgctcctg g 21
<210> 106
<211> 18
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.
<400> 106
 cagtgtgcca ggactttg 18
<210> 107
<211> 18
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.
<400> 107
 agtcgcaggc agcgttgg 18
<210> 108
<211> 25
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-25
<223> Synthetic construct.
<400> 108
ctcctccgag tctgtgtgct cctgc 25
<210> 109
<211> 51
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
```

```
<222> 1-51
<223> Synthetic construct.
<400> 109
ggacgggcag ttccctqtqt ctctqqtqqt ttqcctaaac ctqcaaacat 50
c 51
<210> 110
<211> 1114
<212> DNA
<213> Homo sapiens
<400> 110
cggacgcgtg ggcggacgcg tgggcggacg cgtgggtctc tgcggggaga 50
cgccagcctg cgtctgccat ggggctcggg ttgaggggct ggggacgtcc 100
tctgctgact gtggccaccg ccctgatgct gcccgtgaag ccccccgcag 150
gctcctgggg ggcccagatc atcgggggcc acgaggtgac ccccactcc 200
aggccctaca tggcatccgt gcgcttcggg ggccaacatc actgcggagg 250
cttcctgctg cgagcccgct gggtggtctc ggccgcccac tgcttcagcc 300
acagagacct ccgcactggc ctggtggtgc tgggcgccca cgtcctgagt 350
actgcggagc ccacccagca ggtgtttggc atcgatgctc tcaccacgca 400
ccccgactac caccccatga cccacgccaa cgacatctgc ctgctgcggc 450
tgaacggctc tgctgtcctg ggccctgcag tggggctgct gaggctgcca 500
gggagaaggg ccaggcccc cacagcgggg acacggtgcc gggtggctgg 550
ctggggcttc gtgtctgact ttgaggagct gccgcctgga ctgatggagg 600
ccaaggtccg agtgctggac ccggacgtct gcaacagctc ctggaagggc 650
cacctgacac ttaccatgct ctgcacccgc agtggggaca gccacagacg 700
gggcttctgc tcggccgact ccggagggcc cctggtgtgc aggaaccggg 750
ctcacggcct cgtttccttc tcgggcctct ggtgcggcga ccccaagacc 800
cccgacgtgt acacgcaggt gtccgccttt gtggcctgga tctgggacgt 850
ggttcggcgg agcagtcccc agcccggccc cctgcctggg accaccaggc 900
ccccaggaga agccgcctga gccacaacct tgcggcatgc aaatgagatg 950
gccgctccag gcctggaatg ttccgtggct gggccccacg ggaagcctga 1000
tgttcagggt tggggtggga cgggcagcgg tggggcacac ccattccaca 1050
```

tgcaaagggc agaagcaaac ccagtaaaat gttaactgac aaaaaaaaa 1100

## aaaaaaaaa gaaa 1114

- <210> 111
- <211> 283
- <212> PRT
- <213> Homo sapiens

## <400> 111

- Met Gly Leu Gly Leu Arg Gly Trp Gly Arg Pro Leu Leu Thr Val 1 5 10
- Ala Thr Ala Leu Met Leu Pro Val Lys Pro Pro Ala Gly Ser Trp 20 25 30
- Gly Ala Gln Ile Ile Gly Gly His Glu Val Thr Pro His Ser Arg
  35 40 45
- Pro Tyr Met Ala Ser Val Arg Phe Gly Gly Gln His His Cys Gly 50 55 60
- Gly Phe Leu Leu Arg Ala Arg Trp Val Val Ser Ala Ala His Cys
  65 70 75
- Phe Ser His Arg Asp Leu Arg Thr Gly Leu Val Val Leu Gly Ala 80 85 90
- His Val Leu Ser Thr Ala Glu Pro Thr Gln Gln Val Phe Gly Ile
  95 100 105
- Asp Ala Leu Thr Thr His Pro Asp Tyr His Pro Met Thr His Ala 110 115 120
- Asn Asp Ile Cys Leu Leu Arg Leu Asn Gly Ser Ala Val Leu Gly 125 130 135
- Pro Ala Val Gly Leu Leu Arg Leu Pro Gly Arg Arg Ala Arg Pro 140 145 150
- Pro Thr Ala Gly Thr Arg Cys Arg Val Ala Gly Trp Gly Phe Val 155 160 165
- Ser Asp Phe Glu Glu Leu Pro Pro Gly Leu Met Glu Ala Lys Val 170 175 180
- Arg Val Leu Asp Pro Asp Val Cys Asn Ser Ser Trp Lys Gly His
  185 190 195
- Leu Thr Leu Thr Met Leu Cys Thr Arg Ser Gly Asp Ser His Arg
- Arg Gly Phe Cys Ser Ala Asp Ser Gly Gly Pro Leu Val Cys Arg 215 220 225
- Asn Arg Ala His Gly Leu Val Ser Phe Ser Gly Leu Trp Cys Gly 230 235 240
- Asp Pro Lys Thr Pro Asp Val Tyr Thr Gln Val Ser Ala Phe Val 245 250 255

```
Ala Trp Ile Trp Asp Val Val Arg Arg Ser Ser Pro Gln Pro Gly
                  260
                                      265
 Pro Leu Pro Gly Thr Thr Arg Pro Pro Gly Glu Ala Ala
                  275
                                      280
<210> 112
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 112
 gacgtctgca acagctcctg gaag 24
<210> 113
<211> 23
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-23
<223> Synthetic construct.
<400> 113
cgagaaggaa acgaggccgt gag 23
<210> 114
<211> 44
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-44
<223> Synthetic construct.
<400> 114
tgacacttac catgetetge accegeagtg gggacageca caga 44
<210> 115
<211> 1808
<212> DNA
<213> Homo sapiens
<400> 115
gagetaceca ggeggetggt gtgcagcaag eteegegeeg aeteeggaeg 50
cctgacgcct gacgcctgtc cccggcccgg catgagccgc tacctgctgc 100
cgctgtcggc gctgggcacg gtagcaggcg ccgccgtgct gctcaaggac 150
tatgtcaccg gtggggcttg ccccagcaag gccaccatcc ctgggaagac 200
```

ggtcatcgtg acgggcgcca acacaggcat cgggaagcag accgccttgg 250 aactggccag gagaggaggc aacatcatcc tggcctgccg agacatggag 300 aagtgtgagg cggcagcaaa ggacatccgc ggggagaccc tcaatcacca 350 tgtcaacgcc cggcacctgg acttggcttc cctcaagtct atccgagagt 400 ttgcagcaaa gatcattgaa gaggaggagc gagtggacat tctaatcaac 450 aacgcgggtg tgatgcggtg ccccactgg accaccgagg acggcttcga 500 gatgcagttt ggcgttaacc acctgggtca ctttctcttg acaaacttgc 550 tgctggacaa gctgaaagcc tcagcccctt cgcggatcat caacctctcg 600 tccctggccc atgttgctgg gcacatagac tttgacgact tgaactggca 650 gacgaggaag tataacacca aagccgccta ctgccagagc aagctcgcca 700 tegteetett caccaaggag etgageegge ggetgeaagg etetggtgtg 750 actgtcaacg ccctgcaccc cggcgtggcc aggacagagc tgggcagaca 800 cacgggcatc catggctcca ccttctccag caccacactc gggcccatct 850 tctggctgct ggtcaagagc cccgagctgg ccgcccagcc cagcacatac 900 ctggccgtgg cggaggaact ggcggatgtt tccggaaagt acttcgatgg 950 actcaaacag aaggccccgg cccccgaggc tgaggatgag gaggtggccc 1000 ggaggctttg ggctgaaagt gcccgcctgg tgggcttaga ggctccctct 1050 gtgagggagc agcccctccc cagataacct ctggagcaga tttgaaagcc 1100 aggatggcgc ctccagaccg aggacagctg tccgccatgc ccgcagcttc 1150 ctggcactac ctgagccggg agacccagga ctggcggccg ccatgcccgc 1200 agtaggttct agggggcggt gctggccgca gtggactggc ctgcaggtga 1250 gcactgcccc gggctctggc tggttccgtc tgctctgctg ccagcagggg 1300 agaggggcca tctgatgctt cccctgggaa tctaaactgg gaatggccga 1350 ggaggaaggg gctctgtgca cttgcaggcc acgtcaggag agccagcggt 1400 gcctgtcggg gagggttcca aggtgctccg tgaagagcat gggcaagttg 1450 tctgacactt ggtggattct tgggtccctg tgggaccttg tgcatgcatg 1500 gtcctctctg agccttggtt tcttcagcag tgagatgctc agaataactg 1550 ctgtctccca tgatggtgtg gtacagcgag ctgttgtctg gctatggcat 1600 ggctgtgccg ggggtgtttg ctgagggctt cctgtgccag agcccagcca 1650

gagagcaggt gcaggtgtca tcccgagttc aggctctgca cggcatggag 1700 tgggaacccc accagctgct gctacaggac ctgggattgc ctgggactcc 1750 caccttccta tcaattctca tggtagtcca aactgcagac tctcaaactt 1800 gctcattt 1808 '

- <210> 116
- <211> 331
- <212> PRT
- <213> Homo sapiens
- <400> 116
- Met Ser Arg Tyr Leu Leu Pro Leu Ser Ala Leu Gly Thr Val Ala
  1 5 10 15
- Gly Ala Ala Val Leu Leu Lys Asp Tyr Val Thr Gly Gly Ala Cys
  20 25 30
- Pro Ser Lys Ala Thr Ile Pro Gly Lys Thr Val Ile Val Thr Gly 35 40 45
- Ala Asn Thr Gly Ile Gly Lys Gln Thr Ala Leu Glu Leu Ala Arg
  50 55 60
- Arg Gly Gly Asn Ile Ile Leu Ala Cys Arg Asp Met Glu Lys Cys
  65 70 75
- Glu Ala Ala Lys Asp Ile Arg Gly Glu Thr Leu Asn His His 80 85 90
- Val Asn Ala Arg His Leu Asp Leu Ala Ser Leu Lys Ser Ile Arg 95 100 105
- Glu Phe Ala Ala Lys Ile Ile Glu Glu Glu Glu Arg Val Asp Ile 110 115 120
- Leu Ile Asn Asn Ala Gly Val Met Arg Cys Pro His Trp Thr Thr 125 130 135
- Glu Asp Gly Phe Glu Met Gln Phe Gly Val Asn His Leu Gly His 140 145 150
- Phe Leu Leu Thr Asn Leu Leu Leu Asp Lys Leu Lys Ala Ser Ala 155 160 165
- Pro Ser Arg Ile Ile Asn Leu Ser Ser Leu Ala His Val Ala Gly
  170 175 180
- His Ile Asp Phe Asp Asp Leu Asn Trp Gln Thr Arg Lys Tyr Asn 185 190 195
- Thr Lys Ala Ala Tyr Cys Gln Ser Lys Leu Ala Ile Val Leu Phe 200 205 210
- Thr Lys Glu Leu Ser Arg Arg Leu Gln Gly Ser Gly Val Thr Val 215 220 225

```
Asn Ala Leu His Pro Gly Val Ala Arg Thr Glu Leu Gly Arg His 240

Thr Gly Ile His Gly Ser Thr Phe Ser Ser Thr Thr Leu Gly Pro 255

Ile Phe Trp Leu Leu Val Lys Ser Pro Glu Leu Ala Ala Gln Pro 270

Ser Thr Tyr Leu Ala Val Ala Glu Glu Leu Ala Asp Val Ser Gly 285

Lys Tyr Phe Asp Gly Leu Lys Gln Lys Ala Pro Ala Pro Glu Ala 300

Glu Asp Glu Glu Val Ala Arg Arg Leu Trp Ala Glu Ser Ala Arg 315

Leu Val Gly Leu Glu Ala Pro Ser Val Arg Glu Gln Pro Leu Pro 330
```

Arg

<210> 117 <211> 2249 <212> DNA <213> Homo sapiens

<400> 117
 gaagttegeg agegetggea tgtggteetg ggggegget ggeggegetg 50
 ctggeggtge tggegetegg gacaggagae ceagaaaggg etgeggeteg 100
 gggegacaeg tteteggege tgaceagegt ggeggeggee etggegeeeg 150
 agegeegget getggggetg etgaggeggt acetggeggg ggaggaggeg 200
 cggetgeggg acetgactag attetacgae aaggtaettt etttgeatga 250
 ggatteaaea acecetgtgg etaaceetet gettgeattt acteteatea 300
 aaegeetgea gtetgactgg aggaatgtgg tacatagtet ggaggeeagt 350
 gagaacatee gagetetgaa ggatggetat gagaaggtgg ageaagaeet 400
 teeageettt gaggaeettg aggaaggeage aagggeeetg atgeggetge 450
 aggaegtgta catgeteaat gtgaaaggee tggeeegagg tgtettteag 500
 agagteaetg getetgeeat caetgaeetg tacageeeea aaeggetett 550
 tteteteaea ggggatgaet getteeaagt tggeaaggtg geetatgaea 600
 tgggggatta ttaceatgee atteeatgge tggaggagge tgteagtete 650
 tteegaggat ettacggaa gtggaagaea gaggatgagg caagtetaga 700

agatgccttg gatcacttgg cctttgctta tttccgggca ggaaatgttt 750 cgtgtgccct cagcctctct cgggagtttc ttctctacag cccagataat 800 aagaggatgg ccaggaatgt cttgaaatat gaaaggctct tggcagagag 850 ccccaaccac gtggtagctg aggctgtcat ccagaggccc aatatacccc 900 acctgcagac cagagacacc tacgagggc tatgtcagac cctgggttcc 950 cagcccactc tctaccagat ccctagcctc tactgttcct atgagaccaa 1000 ttccaacgcc tacctgctgc tccagcccat ccggaaggag gtcatccacc 1050 tggagcccta cattgctctc taccatgact tcgtcagtga ctcagaggct 1100 cagaaaatta gagaacttgc agaaccatgg ctacagaggt cagtggtggc 1150 atcaggggag aagcagttac aagtggagta ccgcatcagc aaaagtgcct 1200 ggctgaagga cactgttgac ccaaaactgg tgaccctcaa ccaccgcatt 1250 gctgccctca caggccttga tgtccggcct ccctatgcag agtatctgca 1300 ggtggtgaac tatggcatcg gaggacacta tgagcctcac tttgaccatg 1350 ctacgtcacc aagcagcccc ctctacagaa tgaagtcagg aaaccgagtt 1400 gcaacattta tgatctatct gagctcggtg gaagctggag gagccacagc 1450 cttcatctat gccaacctca gcgtgcctgt ggttaggaat gcagcactgt 1500 tttggtggaa cctgcacagg agtggtgaag gggacagtga cacacttcat 1550 gctggctgtc ctgtcctggt gggagataag tgggtggcca acaagtggat 1600 acatgagtat ggacaggaat tccgcagacc ctgcagctcc agccctgaag 1650 actgaactgt tggcagagag aagctggtgg agtcctgtgg ctttccagag 1700 aagccaggag ccaaaagctg gggtaggaga ggagaaagca gagcagcctc 1750 ctggaagaag gccttgtcag ctttgtctgt gcctcgcaaa tcagaggcaa 1800 gggagaggtt gttaccaggg gacactgaga atgtacattt gatctgccc 1850 agccacggaa gtcagagtag gatgcacagt acaaaggagg ggggagtgga 1900 ggcctgagag ggaagtttct ggagttcaga tactctctgt tgggaacagg 1950 acatctcaac agtctcaggt tcgatcagtg ggtcttttgg cactttgaac 2000 cttgaccaca gggaccaaga agtggcaatg aggacacctg caggaggggc 2050 tagectgact eccagaactt taagacttte teeccactge ettetgetge 2100 agcccaagca gggagtgtcc ccctcccaga agcatatccc agatgagtgg 2150

<210> 118

<211> 544

<212> PRT

<213> Homo sapiens

<400> 118

Met Gly Pro Gly Ala Arg Leu Ala Ala Leu Leu Ala Val Leu Ala 1 5 10 15

Leu Gly Thr Gly Asp Pro Glu Arg Ala Ala Ala Arg Gly Asp Thr 20 25 30

Phe Ser Ala Leu Thr Ser Val Ala Arg Ala Leu Ala Pro Glu Arg
35 40 45

Arg Leu Leu Gly Leu Leu Arg Arg Tyr Leu Arg Gly Glu Glu Ala 50 55 60

Arg Leu Arg Asp Leu Thr Arg Phe Tyr Asp Lys Val Leu Ser Leu 65 70 75

His Glu Asp Ser Thr Thr Pro Val Ala Asn Pro Leu Leu Ala Phe 80 85 90

Thr Leu Ile Lys Arg Leu Gln Ser Asp Trp Arg Asn Val Val His
95 100 105

Ser Leu Glu Ala Ser Glu Asn Ile Arg Ala Leu Lys Asp Gly Tyr 110 115 120

Glu Lys Val Glu Gln Asp Leu Pro Ala Phe Glu Asp Leu Glu Gly
125 130 135

Ala Ala Arg Ala Leu Met Arg Leu Gln Asp Val Tyr Met Leu Asn

Val Lys Gly Leu Ala Arg Gly Val Phe Gln Arg Val Thr Gly Ser 155 160 165

Ala Ile Thr Asp Leu Tyr Ser Pro Lys Arg Leu Phe Ser Leu Thr 170 175 180

Gly Asp Asp Cys Phe Gln Val Gly Lys Val Ala Tyr Asp Met Gly
185 190 195

Asp Tyr Tyr His Ala Ile Pro Trp Leu Glu Glu Ala Val Ser Leu 200 205 210

Phe Arg Gly Ser Tyr Gly Glu Trp Lys Thr Glu Asp Glu Ala Ser 215 220 225

Leu Glu Asp Ala Leu Asp His Leu Ala Phe Ala Tyr Phe Arg Ala 230 235 240

Gly Asn Val Ser Cys Ala Leu Ser Leu Ser Arg Glu Phe Leu Leu Tyr Ser Pro Asp Asn Lys Arg Met Ala Arg Asn Val Leu Lys Tyr Glu Arg Leu Leu Ala Glu Ser Pro Asn His Val Val Ala Glu Ala Val Ile Gln Arg Pro Asn Ile Pro His Leu Gln Thr Arg Asp Thr Tyr Glu Gly Leu Cys Gln Thr Leu Gly Ser Gln Pro Thr Leu Tyr Gln Ile Pro Ser Leu Tyr Cys Ser Tyr Glu Thr Asn Ser Asn Ala Tyr Leu Leu Gln Pro Ile Arg Lys Glu Val Ile His Leu Glu 335 340 Pro Tyr Ile Ala Leu Tyr His Asp Phe Val Ser Asp Ser Glu Ala Gln Lys Ile Arg Glu Leu Ala Glu Pro Trp Leu Gln Arg Ser Val 365 Val Ala Ser Gly Glu Lys Gln Leu Gln Val Glu Tyr Arg Ile Ser Lys Ser Ala Trp Leu Lys Asp Thr Val Asp Pro Lys Leu Val Thr 405 Leu Asn His Arg Ile Ala Ala Leu Thr Gly Leu Asp Val Arg Pro 415 Pro Tyr Ala Glu Tyr Leu Gln Val Val Asn Tyr Gly Ile Gly Gly His Tyr Glu Pro His Phe Asp His Ala Thr Ser Pro Ser Ser Pro 445 Leu Tyr Arg Met Lys Ser Gly Asn Arg Val Ala Thr Phe Met Ile 460 465 Tyr Leu Ser Ser Val Glu Ala Gly Gly Ala Thr Ala Phe Ile Tyr Ala Asn Leu Ser Val Pro Val Val Arg Asn Ala Ala Leu Phe Trp 485 495 Trp Asn Leu His Arg Ser Gly Glu Gly Asp Ser Asp Thr Leu His Ala Gly Cys Pro Val Leu Val Gly Asp Lys Trp Val Ala Asn Lys 525 Trp Ile His Glu Tyr Gly Gln Glu Phe Arg Arg Pro Cys Ser Ser

```
Ser Pro Glu Asp
```

```
<210> 119
<211> 23
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-23
<223> Synthetic construct.
<400> 119
 cgggacagga gacccagaaa ggg 23
<210> 120
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
```

ggccaagtga tccaaggcat cttc 24

<400> 120

Ø.

. . . .

23 446

<210> 121 <211> 49

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-49

<223> Synthetic construct.

<400> 121

ctgcgggacc tgactagatt ctacgacaag gtactttctt tgcatgggg 49

<210> 122 <211> 1778

<212> DNA

<213> Homo sapiens

<400> 122

gagataggga gtctgggttt aagttcctgc tccatctcag gagcccctgc 50 tcccacccct aggaagccac cagactccac ggtgtggggc caatcaggtg 100 gaatcggccc tggcaggtgg ggccacgagc gctggctgag ggaccgagcc 150 ggagagcccc ggagcccccg taacccgcgc ggggagcgcc caggatgccg 200

cgcggggact cggagcaggt gcgctactgc gcgcgcttct cctacctctg 250 gctcaagttt tcacttatca tctattccac cgtgttctgg ctgattgggg 300 ccctggtcct gtctgtgggc atctatgcag aggttgagcg gcagaaatat 350 aaaacccttg aaagtgcctt cctggctcca gccatcatcc tcatcctcct 400 gggcgtcgtc atgttcatgg tctccttcat tggtgtgctg gcgtccctcc 450 gtgacaacct gtaccttctc caagcattca tgtacatcct tgggatctgc 500 ctcatcatgg agctcattgg tggcgtggtg gccttgacct tccggaacca 550 gaccattgac ttcctgaacg acaacattcg aagaggaatt gagaactact 600 atgatgatct ggacttcaaa aacatcatgg actttgttca gaaaaagttc 650 aagtgctgtg gcggggagga ctaccgagat tggagcaaga atcagtacca 700 cgactgcagt gcccctggac ccctggcctg tggggtgccc tacacctgct 750 gcatcaggaa cacgacagaa gttgtcaaca ccatgtgtgg ctacaaaact 800 atcgacaagg agcgtttcag tgtgcaggat gtcatctacg tgcggggctg 850 caccaacgcc gtgatcatct ggttcatgga caactacacc atcatggcgt 900 gcatcctcct gggcatcctg cttccccagt tcctgggggt gctgctgacg 950 ctgctgtaca tcacccgggt ggaggacatc atcatggagc actctgtcac 1000 tgatgggctc ctggggcccg gtgccaagcc cagcgtggag gcggcaggca 1050 cgggatgctg cttgtgctac cccaattagg gcccagcctg ccatggcagc 1100 tccaacaagg accgtctggg atagcacctc tcagtcaaca tcgtggggct 1150 ggacagggct gcggcccctc tgcccacact cagtactgac caaagccagg 1200 gctgtgtgtg cctgtgtgta ggtcccacgg cctctgcctc cccagggagc 1250 agageetggg ceteceetaa gaggetttee eegaggeage tetggaatet 1300 gtgcccacct ggggcctggg gaacaaggcc ctcctttctc caggcctggg 1350 ctacagggga gggagagcct gaggctctgc tcagggccca tttcatctct 1400 ggcagtgcct tggcggtggt attcaaggca gttttgtagc acctgtaatt 1450 ggggagaggg agtgtgcccc tcggggcagg agggaagggc atctggggaa 1500 gggcaggagg gaagagctgt ccatgcagcc acgcccatgg ccaggttggc 1550 ctcttctcag cctcccaggt gccttgagcc ctcttgcaag ggcggctgct 1600 tccttgagcc tagttttttt ttacgtgatt tttgtaacat tcatttttt 1650

gtacagataa caggagtttc tgactaatca aagctggtat ttccccgcat 1700 gtcttattct tgcccttccc ccaaccagtt tgttaatcaa acaataaaaa 1750 catgttttgt tttgttttta aaaaaaaa 1778

<210> 123

<211> 294

<212> PRT

<213> Homo sapiens

<400> 123

Met Pro Arg Gly Asp Ser Glu Gln Val Arg Tyr Cys Ala Arg Phe
1 5 10 15

Ser Tyr Leu Trp Leu Lys Phe Ser Leu Ile Ile Tyr Ser Thr Val 20 25 30

Phe Trp Leu Ile Gly Ala Leu Val Leu Ser Val Gly Ile Tyr Ala 35 40 45

Glu Val Glu Arg Gln Lys Tyr Lys Thr Leu Glu Ser Ala Phe Leu 50 55 60

Ala Pro Ala Ile Ile Leu Ile Leu Gly Val Val Met Phe Met 65 70 75

Val Ser Phe Ile Gly Val Leu Ala Ser Leu Arg Asp Asn Leu Tyr 80 85 90

Leu Leu Gln Ala Phe Met Tyr Ile Leu Gly Ile Cys Leu Ile Met 95 100 105

Glu Leu Ile Gly Gly Val Val Ala Leu Thr Phe Arg Asn Gln Thr 110 115 120

Ile Asp Phe Leu Asn Asp Asn Ile Arg Arg Gly Ile Glu Asn Tyr 125 130 135

Tyr Asp Asp Leu Asp Phe Lys Asn Ile Met Asp Phe Val Gln Lys
140 145 150

Lys Phe Lys Cys Cys Gly Gly Glu Asp Tyr Arg Asp Trp Ser Lys 155 160 165

Asn Gln Tyr His Asp Cys Ser Ala Pro Gly Pro Leu Ala Cys Gly 170 175 180

Val Pro Tyr Thr Cys Cys Ile Arg Asn Thr Thr Glu Val Val Asn 185 190 195

Thr Met Cys Gly Tyr Lys Thr Ile Asp Lys Glu Arg Phe Ser Val

Gln Asp Val Ile Tyr Val Arg Gly Cys Thr Asn Ala Val Ile Ile 215 220 225

Trp Phe Met Asp Asn Tyr Thr Ile Met Ala Cys Ile Leu Leu Gly

	230	235		240
	230	233		240
Ile Leu Leu Pro	Gln Phe Leu 245	Gly Val Leu 250	Leu Thr Leu	Leu Tyr 255
Ile Thr Arg Val	Glu Asp Ile 260	Ile Met Glu 265	His Ser Val	Thr Asp 270
Gly Leu Leu Gly	Pro Gly Ala 275	Lys Pro Ser 280	Val Glu Ala	Ala Gly 285
Thr Gly Cys Cys	Leu Cys Tyr 290	Pro Asn		
<210> 124 <211> 25 <212> DNA <213> Artificial				
<220> <221> Artificial <222> 1-25 <223> Synthetic of	-			
<400> 124 atcatctatt ccac	egtgtt etgge	25		
<210> 125 <211> 25 <212> DNA <213> Artificial				
<220> <221> Artificial <222> 1-25 <223> Synthetic (	_			
<400> 125 gacagagtgc tcca	tgatga tgtcc	25		
<210> 126 <211> 50 <212> DNA <213> Artificial				
<220> <221> Artificial <222> 1-50 <223> Synthetic of	_			
<400> 126 cctgtctgtg ggca	ctatg cagage	gttga geggeag	gaaa tataaaa	ccc 50
<210> 127 <211> 1636 <212> DNA <213> Homo sapier	ns			

<400> 127 gaggagcggg ccgaggactc cagcgtgccc aggtctggca tcctgcactt 50 gctgccctct gacacctggg aagatggccg gcccgtggac cttcaccctt 100 ctctgtggtt tgctggcagc caccttgatc caagccaccc tcagtcccac 150 tgcagttctc atcctcggcc caaaagtcat caaagaaaag ctgacacagg 200 agctgaagga ccacaacgcc accagcatcc tgcagcagct gccgctgctc 250 agtgccatgc gggaaaagcc agccggaggc atccctgtgc tgggcagcct 300 ggtgaacacc gtcctgaagc acatcatctg gctgaaggtc atcacagcta 350 acatcctcca gctgcaggtg aagccctcgg ccaatgacca ggagctgcta 400 gtcaagatcc ccctggacat ggtggctgga ttcaacacgc ccctggtcaa 450 gaccatcgtg gagttccaca tgacgactga ggcccaagcc accatccgca 500 tggacaccag tgcaagtggc cccacccgcc tggtcctcag tgactgtgcc 550 accagccatg ggagcctgcg catccaactg ctgtataagc tctccttcct 600 ggtgaacgcc ttagctaagc aggtcatgaa cctcctagtg ccatccctgc 650 ccaatctagt gaaaaaccag ctgtgtcccg tgatcgaggc ttccttcaat 700 ggcatgtatg cagacetect geagetggtg aaggtgeeca ttteeeteag 750 cattgaccgt ctggagtttg accttctgta tcctgccatc aagggtgaca 800 ccattcagct ctacctgggg gccaagttgt tggactcaca gggaaaggtg 850 accaagtggt tcaataactc tgcagcttcc ctgacaatgc ccaccctgga 900 caacatcccg ttcagcctca tcgtgagtca ggacgtggtg aaagctgcag 950 tggctgctgt gctctctcca gaagaattca tggtcctgtt ggactctgtg 1000 cttcctgaga gtgcccatcg gctgaagtca agcatcgggc tgatcaatga 1050 aaaggctgca gataagctgg gatctaccca gatcgtgaag atcctaactc 1100 aggacactcc cgagtttttt atagaccaag gccatgccaa ggtggcccaa 1150 ctgatcgtgc tggaagtgtt tccctccagt gaagccctcc gccctttgtt 1200 caccctgggc atcgaagcca gctcggaagc tcagttttac accaaaggtg 1250 accaacttat actcaacttg aataacatca gctctgatcg gatccagctg 1300 atgaactctg ggattggctg gttccaacct gatgttctga aaaacatcat 1350 cactgagatc atccactcca tcctgctgcc gaaccagaat ggcaaattaa 1400 gatctggggt cccagtgtca ttggtgaagg ccttgggatt cgaggcagct 1450 gagtcctcac tgaccaagga tgcccttgtg cttactccag cctccttgtg 1500 gaaacccagc tctcctgtct cccagtgaag acttggatgg cagccatcag 1550 ggaaggctgg gtcccagctg ggagtatggg tgtgagctct atagaccatc 1600 cctctctgca atcaataaac acttgcctgt gaaaaa 1636

- <210> 128
- <211> 484
- <212> PRT
- <213> Homo sapiens
- <400> 128
- Met Ala Gly Pro Trp Thr Phe Thr Leu Leu Cys Gly Leu Leu Ala
  1 5 10 15
- Ala Thr Leu Ile Gln Ala Thr Leu Ser Pro Thr Ala Val Leu Ile 20 25 30
- Leu Gly Pro Lys Val Ile Lys Glu Lys Leu Thr Gln Glu Leu Lys
  35 40 45
- Asp His Asn Ala Thr Ser Ile Leu Gln Gln Leu Pro Leu Leu Ser 50 55 60
- Ala Met Arg Glu Lys Pro Ala Gly Gly Ile Pro Val Leu Gly Ser
  65 70 75
- Leu Val Asn Thr Val Leu Lys His Ile Ile Trp Leu Lys Val Ile 80 85 90
- Thr Ala Asn Ile Leu Gln Leu Gln Val Lys Pro Ser Ala Asn Asp 95 100 105
- Gln Glu Leu Leu Val Lys Ile Pro Leu Asp Met Val Ala Gly Phe 110 115 120
- Asn Thr Pro Leu Val Lys Thr Ile Val Glu Phe His Met Thr Thr 125 130 135
- Glu Ala Gln Ala Thr Ile Arg Met Asp Thr Ser Ala Ser Gly Pro 140 145 150
- Thr Arg Leu Val Leu Ser Asp Cys Ala Thr Ser His Gly Ser Leu 155 160 165
- Arg Ile Gln Leu Leu Tyr Lys Leu Ser Phe Leu Val Asn Ala Leu 170 175 180
- Ala Lys Gln Val Met Asn Leu Leu Val Pro Ser Leu Pro Asn Leu 185 190 195
- Val Lys Asn Gln Leu Cys Pro Val Ile Glu Ala Ser Phe Asn Gly 200 205 210
- Met Tyr Ala Asp Leu Leu Gln Leu Val Lys Val Pro Ile Ser Leu 215 220 225

Ser	Ile	Asp	Arg	Leu 230	Glu	Phe	Asp	Leu	Leu 235	Tyr	Pro	Ala	Ile	Lys 240
Gly	Asp	Thr	Ile	Gln 245	Leu	Tyr	Leu	Gly	Ala 250	Lys	Leu	Leu	Asp	Ser 255
Gln	Gly	Lys	Val	Thr 260	Lys	Trp	Phe	Asn	Asn 265	Ser	Ala	Ala	Ser	Leu 270
Thr	Met	Pro	Thr	Leu 275	Asp	Asn	Ile	Pro	Phe 280	Ser	Leu	Ile	Val	Ser 285
Gln	Asp	Val	Val	Lys 290	Ala	Ala	Val	Ala	Ala 295	Val	Leu	Ser	Pro	Glu 300
Glu	Phe	Met	Val	Leu 305	Leu	Asp	Ser	Val	Leu 310	Pro	Glu	Ser	Ala	His 315
Arg	Leu	Lys	Ser	Ser 320	Ile	Gly	Leu	Ile	Asn 325	Glu	Lys	Ala	Ala	Asp 330
Lys	Leu	Gly	Ser	Thr 335	Gln	Ile	Val	Lys	Ile 340	Leu	Thr	Gln	Asp	Thr 345
Pro	Glu	Phe	Phe	Ile 350	Asp	Gln	Gly	His	Ala 355	Lys	Val	Ala	Gln	Leu 360
Ile	Val	Leu	Glu	Val 365	Phe	Pro	Ser	Ser	Glu 370	Ala	Leu	Arg	Pro	Leu 375
Phe	Thr	Leu	Gly	Ile 380	Glu	Ala	Ser	Ser	Glu 385	Ala	Gln	Phe	Tyr	Thr 390
Lys	Gly	Asp	Gln	Leu 395	Ile	Leu	Asn		Asn 400	Asn	Ile	Ser	Ser	Asp 405
Arg	Ile	Gln	Leu	Met 410	Asn	Ser	Gly	Ile	Gly 415	Trp	Phe	Gln	Pro	Asp 420
Val	Leu	Lys	Asn	Ile 425	Ile	Thr	Glu	Ile	Ile 430	His	Ser	Ile	Leu	Leu 435
Pro	Asn	Gln	Asn	Gly 440	Lys	Leu	Arg	Ser	Gly 445	Val	Pro	Val	Ser	Leu 450
Val	Lys	Ala	Leu	Gly 455	Phe	Glu	Ala	Ala	Glu 460	Ser	Ser	Leu	Thr	Lys 465
Asp	Ala	Leu	Val	Leu 470	Thr	Pro	Ala	Ser	Leu 475	Trp	Lys	Pro	Ser	Ser 480

Pro Val Ser Gln

<sup>&</sup>lt;210> 129

<sup>&</sup>lt;211> 2213 <212> DNA <213> Homo sapiens

<400> 129 gagcgaacat ggcagcgcgt tggcggtttt ggtgtgtctc tgtgaccatg 50 gtggtggcgc tgctcatcgt ttgcgacgtt ccctcagcct ctgcccaaag 100 ctaacaaaag acctgtaata agaatgaatg gagacaagtt ccgtcgcctt 200 gtgaaagccc caccgagaaa ttactccgtt atcgtcatgt tcactgctct 250 ccaactgcat agacagtgtg tcgtttgcaa gcaagctgat gaagaattcc 300 agatectgge aaactectgg egatacteca gtgeatteae caacaggata 350 ttttttgcca tggtggattt tgatgaaggc tctgatgtat ttcagatgct 400 aaacatgaat tcagctccaa ctttcatcaa ctttcctgca aaagggaaac 450 ccaaacgggg tgatacatat gagttacagg tgcggggttt ttcagctgag 500 cagattgccc ggtggatcgc cgacagaact gatgtcaata ttagagtgat 550 tagaccccca aattatgctg gtccccttat gttgggattg cttttggctg 600 ttattggtgg acttgtgtat cttcgaagaa gtaatatgga atttctcttt 650 aataaaactg gatgggcttt tgcagctttg tgttttgtgc ttgctatgac 700 atctggtcaa atgtggaacc atataagagg accaccatat gcccataaga 750 atccccacac gggacatgtg aattatatcc atggaagcag tcaagcccag 800 tttgtagctg aaacacacat tgttcttctg tttaatggtg gagttacctt 850 aggaatggtg cttttatgtg aagctgctac ctctgacatg gatattggaa 900 agcgaaagat aatgtgtgtg gctggtattg gacttgttgt attattcttc 950 agttggatgc tctctatttt tagatctaaa tatcatggct acccatacag 1000 ctttctgatg agttaaaaag gtcccagaga tatatagaca ctggagtact 1050 ggaaattgaa aaacgaaaat cgtgtgtgtt tgaaaagaag aatgcaactt 1100 gtatattttg tattacctct ttttttcaag tgatttaaat agttaatcat 1150 ttaaccaaag aagatgtgta gtgccttaac aagcaatcct ctgtcaaaat 1200 ctgaggtatt tgaaaataat tatcctctta accttctctt cccagtgaac 1250 tttatggaac atttaattta gtacaattaa gtatattata aaaattgtaa 1300 aactactact ttgttttagt tagaacaaag ctcaaaacta ctttagttaa 1350 cttggtcatc tgattttata ttgccttatc caaagatggg gaaagtaagt 1400 cctgaccagg tgttcccaca tatgcctgtt acagataact acattaggaa 1450

ttcattctta gcttcttcat ctttgtgtgg atgtgtatac tttacgcatc 1500 tttccttttg agtagagaaa ttatgtgtgt catgtggtct tctgaaaatg 1550 qaacaccatt cttcaqaqca cacqtctaqc cctcaqcaaq acaqttqttt 1600 ctcctcctcc ttgcatattt cctactgcgc tccagcctga gtgatagagt 1650 gagactctgt ctcaaaaaaa agtatctcta aatacaggat tataatttct 1700 gcttgagtat ggtgttaact accttgtatt tagaaagatt tcagattcat 1750 tccatctcct tagttttctt ttaaggtgac ccatctgtga taaaaatata 1800 gcttagtgct aaaatcagtg taacttatac atggcctaaa atgtttctac 1850 aaattaqaqt ttqtcactta ttccatttqt acctaaqaga aaaataqqct 1900 cagttagaaa aggactccct ggccaggcgc agtgacttac gcctgtaatc 1950 tcagcacttt gggaggccaa ggcaggcaga tcacgaggtc aggagttcga 2000 gaccatcctg gccaacatgg tgaaaccccg tctctactaa aaatataaaa 2050 attagctggg tgtggtggca ggagcctgta atcccagcta cacaggaggc 2100 tgaggcacga gaatcacttg aactcaggag atggaggttt cagtgagccg 2150 agatcacgee actgeactee ageetggeaa cagagegaga etceatetea 2200 aaaaaaaaa aaa 2213

<210> 130

<211> 335

<212> PRT

<213> Homo sapiens

<400> 130

Met Ala Ala Arg Trp Arg Phe Trp Cys Val Ser Val Thr Met Val 1 5 10 15

Val Ala Leu Leu Ile Val Cys Asp Val Pro Ser Ala Ser Ala Gln 20 25 30

Arg Lys Lys Glu Met Val Leu Ser Glu Lys Val Ser Gln Leu Met
35 40 45

Glu Trp Thr Asn Lys Arg Pro Val Ile Arg Met Asn Gly Asp Lys
50 55 60

Phe Arg Arg Leu Val Lys Ala Pro Pro Arg Asn Tyr Ser Val Ile
65 70 75

Val Met Phe Thr Ala Leu Gln Leu His Arg Gln Cys Val Val Cys 80 85 90

Lys Gln Ala Asp Glu Glu Phe Gln Ile Leu Ala Asn Ser Trp Arg
95 100 105

```
Tyr Ser Ser Ala Phe Thr Asn Arg Ile Phe Phe Ala Met Val Asp
Phe Asp Glu Gly Ser Asp Val Phe Gln Met Leu Asn Met Asn Ser
                125
Ala Pro Thr Phe Ile Asn Phe Pro Ala Lys Gly Lys Pro Lys Arg
                140
Gly Asp Thr Tyr Glu Leu Gln Val Arg Gly Phe Ser Ala Glu Gln
                155
Ile Ala Arg Trp Ile Ala Asp Arg Thr Asp Val Asn Ile Arg Val
                                                         180
Ile Arg Pro Pro Asn Tyr Ala Gly Pro Leu Met Leu Gly Leu Leu
Leu Ala Val Ile Gly Gly Leu Val Tyr Leu Arg Arg Ser Asn Met
Glu Phe Leu Phe Asn Lys Thr Gly Trp Ala Phe Ala Ala Leu Cys
Phe Val Leu Ala Met Thr Ser Gly Gln Met Trp Asn His Ile Arg
                230
                                    235
Gly Pro Pro Tyr Ala His Lys Asn Pro His Thr Gly His Val Asn
Tyr Ile His Gly Ser Ser Gln Ala Gln Phe Val Ala Glu Thr His
Ile Val Leu Leu Phe Asn Gly Gly Val Thr Leu Gly Met Val Leu
Leu Cys Glu Ala Ala Thr Ser Asp Met Asp Ile Gly Lys Arg Lys
Ile Met Cys Val Ala Gly Ile Gly Leu Val Val Leu Phe Phe Ser
Trp Met Leu Ser Ile Phe Arg Ser Lys Tyr His Gly Tyr Pro Tyr
```

Ser Phe Leu Met Ser

<210> 131

<211> 2476

<212> DNA

<213> Homo sapiens

<400> 131

aagcaaccaa actgcaagct ttgggagttg ttcgctgtcc ctgccctgct 50 ctgctaggga gagaacgcca gagggaggcg gctggcccgg cggcaggctc 100

tcagaaccgc taccggcgat gctactgctg tgggtgtcgg tggtcgcagc 150 cttggcgctg gcggtactgg cccccggagc aggggagcag aggcggagag 200 cagccaaagc gcccaatgtg gtgctggtcg tgagcgactc cttcgatgga 250 aggttaacat ttcatccagg aagtcaggta gtgaaacttc cttttatcaa 300 ctttatgaag acacgtggga cttcctttct gaatgcctac acaaactctc 350 caatttgttg cccatcacgc gcagcaatgt ggagtggcct cttcactcac 400 ttaacagaat cttggaataa ttttaagggt ctagatccaa attatacaac 450 atggatggat gtcatggaga ggcatggcta ccgaacacag aaatttggga 500 aactggacta tacttcagga catcactcca ttagtaatcg tgtggaagcg 550 tggacaagag atgttgcttt cttactcaga caagaaggca ggcccatggt 600 taatcttatc cgtaacagga ctaaagtcag agtgatggaa agggattggc 650 agaatacaga caaagcagta aactggttaa gaaaggaagc aattaattac 700 actgaaccat ttgttattta cttgggatta aatttaccac acccttaccc 750 ttcaccatct tctggagaaa attttggatc ttcaacattt cacacatctc 800 tttattggct tgaaaaagtg tctcatgatg ccatcaaaat cccaaagtgg 850 tcacctttgt cagaaatgca ccctgtagat tattactctt cttatacaaa 900 aaactgcact ggaagattta caaaaaaaga aattaagaat attagagcat 950 tttattatgc tatgtgtgct gagacagatg ccatgcttgg tgaaattatt 1000 ttggcccttc atcaattaga tcttcttcag aaaactattg tcatatactc 1050 ctcagaccat ggagagctgg ccatggaaca tcgacagttt tataaaatga 1100 gcatgtacga ggctagtgca catgttccgc ttttgatgat gggaccagga 1150 attaaagccg gcctacaagt atcaaatgtg gtttctcttg tggatattta 1200 ccctaccatg cttgatattg ctggaattcc tctgcctcag aacctgagtg 1250 gatactcttt gttgccgtta tcatcagaaa catttaagaa tgaacataaa 1300 gtcaaaaacc tgcatccacc ctggattctg agtgaattcc atggatgtaa 1350 tgtgaatgcc tccacctaca tgcttcgaac taaccactgg aaatatatag 1400 cctattcgga tggtgcatca atattgcctc aactctttga tctttcctcg 1450 gatccagatg aattaacaaa tgttgctgta aaatttccag aaattactta 1500 ttctttggat cagaagcttc attccattat aaactaccct aaagtttctg 1550

cttctgtcca ccagtataat aaagagcagt ttatcaagtg gaaacaaagt 1600 ataggacaga attattcaaa cgttatagca aatcttaggt ggcaccaaga 1650 ctggcagaag gaaccaagga agtatgaaaa tgcaattgat cagtggctta 1700 aaacccatat gaatccaaga gcagtttgaa caaaaagttt aaaaatagtg 1750 ttctagagat acatataaat atattacaag atcataatta tgtattttaa 1800 atgaaacagt tttaataatt accaagtttt ggccgggcac agtggctcac 1850 acctgtaatc ccaggacttt gggaggctga ggaaagcaga tcacaaggtc 1900 aagagattga gaccatcctg gccaacatgg tgaaaccctg tctctactaa 1950 aaatacaaaa attagctggg cgcggtggtg cacacctata gtctcagcta 2000 ctcagaggct gaggcaggag gatcgcttga acccgggagg cagcagttgc 2050 agtgagctga gattgcgcca ctgtactcca gcctggcaac agagtgagac 2100 tgtgtcgcaa aaaaataaa ataaaataat aataattacc aatttttcat 2150 tattttgtaa gaatgtagtg tattttaaga taaaatgcca atgattataa 2200 aatcacatat tttcaaaaat ggttattatt taggcctttg tacaatttct 2250 aacaatttag tggaagtatc aaaaggattg aagcaaatac tgtaacagtt 2300 atgttccttt aaataataga gaatataaaa tattgtaata atatgtatca 2350 taaaatagtt gtatgtgagc atttgatggt gaaaaaaaaa aaaaaaaaa 2400 aaaaaaaaaa aaaaaaa 2476

<210> 132

<211> 536

<212> PRT

<213> Homo sapiens

<400> 132

Met Leu Leu Trp Val Ser Val Val Ala Ala Leu Ala Leu Ala 1 5 10 15

Val Leu Ala Pro Gly Ala Gly Glu Gln Arg Arg Arg Ala Ala Lys 20 25 30

Ala Pro Asn Val Val Leu Val Val Ser Asp Ser Phe Asp Gly Arg 35 40 45

Leu Thr Phe His Pro Gly Ser Gln Val Val Lys Leu Pro Phe Ile 50 55 60

Asn Phe Met Lys Thr Arg Gly Thr Ser Phe Leu Asn Ala Tyr Thr 65 70 75

Asn Ser Pro Ile Cys Cys Pro Ser Arg Ala Ala Met Trp Ser Gly Leu Phe Thr His Leu Thr Glu Ser Trp Asn Asn Phe Lys Gly Leu Asp Pro Asn Tyr Thr Thr Trp Met Asp Val Met Glu Arg His Gly 110 Tyr Arg Thr Gln Lys Phe Gly Lys Leu Asp Tyr Thr Ser Gly His His Ser Ile Ser Asn Arg Val Glu Ala Trp Thr Arg Asp Val Ala 140 Phe Leu Leu Arg Gln Glu Gly Arg Pro Met Val Asn Leu Ile Arg 155 160 Asn Arg Thr Lys Val Arg Val Met Glu Arg Asp Trp Gln Asn Thr Asp Lys Ala Val Asn Trp Leu Arg Lys Glu Ala Ile Asn Tyr Thr 190 Glu Pro Phe Val Ile Tyr Leu Gly Leu Asn Leu Pro His Pro Tyr 205 Pro Ser Pro Ser Ser Gly Glu Asn Phe Gly Ser Ser Thr Phe His Thr Ser Leu Tyr Trp Leu Glu Lys Val Ser His Asp Ala Ile Lys Ile Pro Lys Trp Ser Pro Leu Ser Glu Met His Pro Val Asp Tyr 250 Tyr Ser Ser Tyr Thr Lys Asn Cys Thr Gly Arg Phe Thr Lys Lys Glu Ile Lys Asn Ile Arg Ala Phe Tyr Tyr Ala Met Cys Ala Glu Thr Asp Ala Met Leu Gly Glu Ile Ile Leu Ala Leu His Gln Leu 290 295 Asp Leu Leu Gln Lys Thr Ile Val Ile Tyr Ser Ser Asp His Gly Glu Leu Ala Met Glu His Arg Gln Phe Tyr Lys Met Ser Met Tyr 330 Glu Ala Ser Ala His Val Pro Leu Leu Met Met Gly Pro Gly Ile 340 Lys Ala Gly Leu Gln Val Ser Asn Val Val Ser Leu Val Asp Ile 355 360 Tyr Pro Thr Met Leu Asp Ile Ala Gly Ile Pro Leu Pro Gln Asn

	365	370		375
Leu Ser Gly Tyr	Ser Leu Leu 380	Pro Leu Ser 385	Ser Glu Thr Phe	Lys 390
Asn Glu His Lys	Val Lys Asn 395	Leu His Pro 400	Pro Trp Ile Leu	Ser 405
Glu Phe His Gly	Cys Asn Val 410	Asn Ala Ser 415	Thr Tyr Met Leu	Arg 420
Thr Asn His Trp	Lys Tyr Ile 425	Ala Tyr Ser 430	Asp Gly Ala Ser	Ile 435
Leu Pro Gln Leu	Phe Asp Leu 440	Ser Ser Asp 445	Pro Asp Glu Leu	Thr 450
Asn Val Ala Val	Lys Phe Pro 455	Glu Ile Thr 460	Tyr Ser Leu Asp	Gln 465
Lys Leu His Ser	Ile Ile Asn 470	Tyr Pro Lys 475	Val Ser Ala Ser	Val 480
His Gln Tyr Asn	Lys Glu Gln 485	Phe Ile Lys 490	Trp Lys Gln Ser	Ile 495
Gly Gln Asn Tyr	Ser Asn Val 500	Ile Ala Asn 505	Leu Arg Trp His	Gln 510
Asp Trp Gln Lys	Glu Pro Arg 515	Lys Tyr Glu 520	Asn Ala Ile Asp	Gln 525
Trp Leu Lys Thr	His Met Asn 530	Pro Arg Ala 535	Val	

<210> 133

<211> 1475

<212> DNA

<213> Homo sapiens

<400> 133

gagagaagtc agcetggcag agagactetg aaatgaggga ttagaggtgt 50
teaaggagca agagetteag eetgaagaca agggageagt eeetgaagac 100
gettetaetg agaggtetge eatggeetet ettggeetee aaettgtggg 150
etacateeta ggeettetgg ggettttggg eacaetggtt geeatgetge 200
teeecagetg gaaaacaagt tettatgteg gtgeeageat tgtgacagea 250
gttggettet eeaagggeet etggatggaa tgtgeeacae acageacagg 300
eateaceeag tgtgacatet atageaceet tetgggeetg eeegetgaea 350
teeaggetge eeaggeeatg atggtgacat ecagtgeaat eteeteetg 400
geetgeatta tetetgtggt gggeatgaga tgeacagtet tetgeeagga 450

atcccgagcc aaagacagag tggcggtagc aggtggagtc tttttcatcc 500 ttggaggcct cctgggattc attcctgttg cctggaatct tcatgggatc 550 ctacqqqact tctactcacc actqqtqcct qacaqcatqa aatttqaqat 600 tggagagget ctttacttgg gcattatttc ttccctgttc tccctgatag 650 ctggaatcat cctctgcttt tcctgctcat cccagagaaa tcgctccaac 700 tactacgatg cctaccaagc ccaacctctt gccacaagga gctctccaag 750 gcctggtcaa cctcccaaag tcaagagtga gttcaattcc tacagcctga 800 cagggtatgt gtgaagaacc aggggccaga gctgggggt ggctgggtct 850 gtgaaaaaca gtggacagca ccccgagggc cacaggtgag ggacactacc 900 actggatcgt gtcagaaggt gctgctgagg atagactgac tttggccatt 950 ggattgagca aaggcagaaa tgggggctag tgtaacagca tgcaggttga 1000 attgccaagg atgctcgcca tgccagcctt tctgttttcc tcaccttgct 1050 gctcccctgc cctaagtccc caaccctcaa cttgaaaccc cattccctta 1100 agecaggact cagaggatee etttgeeete tggtttacet gggacteeat 1150 ccccaaaccc actaatcaca tcccactgac tgaccctctg tgatcaaaga 1200 ccctctctct ggctgaggtt ggctcttagc tcattgctgg ggatgggaag 1250 gagaagcagt ggcttttgtg ggcattgctc taacctactt ctcaagcttc 1300 cctccaaaga aactgattgg ccctggaacc tccatcccac tcttgttatg 1350 actccacagt gtccagacta atttgtgcat gaactgaaat aaaaccatcc 1400 tacggtatcc agggaacaga aagcaggatg caggatggga ggacaggaag 1450 gcagcctggg acatttaaaa aaata 1475

<210> 134

<211> 230

<212> PRT

<213> Homo sapiens

<400> 134

Met Ala Ser Leu Gly Leu Gln Leu Val Gly Tyr Ile Leu Gly Leu 1 5 10 15

Leu Gly Leu Leu Gly Thr Leu Val Ala Met Leu Leu Pro Ser Trp
20 25 30

Lys Thr Ser Ser Tyr Val Gly Ala Ser Ile Val Thr Ala Val Gly
35 40 45

Phe Ser Lys Gly Leu Trp Met Glu Cys Ala Thr His Ser Thr Gly

50 55 60

Ile Thr Gln Cys Asp Ile Tyr Ser Thr Leu Leu Gly Leu Pro Ala 65 70 75

Asp Ile Gln Ala Ala Gln Ala Met Met Val Thr Ser Ser Ala Ile 80 85 90

Ser Ser Leu Ala Cys Ile Ile Ser Val Val Gly Met Arg Cys Thr 95 100 105

Val Phe Cys Gln Glu Ser Arg Ala Lys Asp Arg Val Ala Val Ala 110 115 120

Gly Gly Val Phe Phe Ile Leu Gly Gly Leu Leu Gly Phe Ile Pro 125 130 135

Val Ala Trp Asn Leu His Gly Ile Leu Arg Asp Phe Tyr Ser Pro 140 145 150

Leu Val Pro Asp Ser Met Lys Phe Glu Ile Gly Glu Ala Leu Tyr 155 160 165

Leu Gly Ile Ile Ser Ser Leu Phe Ser Leu Ile Ala Gly Ile Ile 170 175 180

Leu Cys Phe Ser Cys Ser Ser Gln Arg Asn Arg Ser Asn Tyr Tyr 185 190 195

Asp Ala Tyr Gln Ala Gln Pro Leu Ala Thr Arg Ser Ser Pro Arg 200 205 210

Pro Gly Gln Pro Pro Lys Val Lys Ser Glu Phe Asn Ser Tyr Ser 215 220 225

Leu Thr Gly Tyr Val 230

<210> 135

<211> 610

<212> DNA

<213> Homo sapiens

<400> 135

gcactgctgc tgtcccatca gctgctctga agctccatgg tgcccagaat 50 cttcgctcct gcttatgtgt cagtctgtct cctcctcttg tgtccaaggg 100 aagtcatcgc tcccgctggc tcagaaccat ggctgtgcca gccggcaccc 150 aggtgtggag acaagatcta caaccccttg gagcagtgct gttacaatga 200 cgccatcgtg tccctgagcg agacccgcca atgtggtccc ccctgcacct 250 tctggccctg ctttgagctc tgctgtcttg attcctttgg cctcacaaac 300 gattttgttg tgaagctgaa ggttcagggt gtgaattccc agtgccactc 350

atctcccatc tccagtaaat gtgaaagcag aagacgttt ccctgagaag 400 acatagaaag aaaatcaact ttcactaagg catctcagaa acataggcta 450 aggtaatatg tgtaccagta gagaagcctg aggaatttac aaaatgatgc 500 agctccaagc cattgtatgg cccatgtggg agactgatgg gacatggaga 550 atgacagtag attatcagga aataaataaa gtggttttc caatgtacac 600 acctgtaaaa 610

<210> 136

<211> 119

<212> PRT

<213> Homo sapiens

<400> 136

Met Val Pro Arg Ile Phe Ala Pro Ala Tyr Val Ser Val Cys Leu 1 5 10 15

Leu Leu Cys Pro Arg Glu Val Ile Ala Pro Ala Gly Ser Glu 20 25 30

Pro Trp Leu Cys Gln Pro Ala Pro Arg Cys Gly Asp Lys Ile Tyr 35 40 45

Asn Pro Leu Glu Gln Cys Cys Tyr Asn Asp Ala Ile Val Ser Leu 50 55 60

Ser Glu Thr Arg Gln Cys Gly Pro Pro Cys Thr Phe Trp Pro Cys
65 70 75

Phe Glu Leu Cys Cys Leu Asp Ser Phe Gly Leu Thr Asn Asp Phe 80 85 90

Val Val Lys Leu Lys Val Gln Gly Val Asn Ser Gln Cys His Ser 95 100 105

Ser Pro Ile Ser Ser Lys Cys Glu Ser Arg Arg Phe Pro 110 115

<210> 137

<211> 771

<212> DNA

<213> Homo sapiens

<400> 137

ctccactgca accaccaga gccatggctc cccgaggctg catcgtagct 50 gtctttgcca ttttctgcat ctccaggctc ctctgctcac acggagccc 100 agtggcccc atgactcctt acctgatgct gtgccagcca cacaagagat 150 gtggggacaa gttctacgac cccctgcagc actgttgcta tgatgatgcc 200 gtcgtgccct tggccaggac ccagacgtgt ggaaactgca ccttcagagt 250

agaactgcga ctcagcccgg acctcggatg acaggctttg tcgcagtgtc 350 agctaatgga acatcagggg aacgatgact cctggattct ccttcctggg 400 tgggcctgga gaaagaggct ggtgttacct gagatctggg atgctgagtg 450 gctgtttggg ggccagagaa acacacactc aactgcccac ttcattctgt 500 gacctgtctg aggcccaccc tgcagctgcc ctgaggaggc ccacaggtcc 550 ccttctagaa ttctggacag catgagatgc gtgtgctgat gggggcccag 600 ggactctgaa ccctcctgat gacccctatg gccaacatca acccggcacc 650 accccaaggc tggctggga acccttcacc cttctgtgag atttccatc 700 atctcaagtt ctcttctatc caggagcaaa gcacaggatc ataataaatt 750 tatgtacttt ataaatgaaa a 771

<210> 138

<211> 110

<212> PRT

<213> Homo sapiens

<400> 138

Met Ala Pro Arg Gly Cys Ile Val Ala Val Phe Ala Ile Phe Cys 1 5 10 15

Ile Ser Arg Leu Cys Ser His Gly Ala Pro Val Ala Pro Met 20 25 30

Thr Pro Tyr Leu Met Leu Cys Gln Pro His Lys Arg Cys Gly Asp 35 40 45

Lys Phe Tyr Asp Pro Leu Gln His Cys Cys Tyr Asp Asp Ala Val
50 55 60

Val Pro Leu Ala Arg Thr Gln Thr Cys Gly Asn Cys Thr Phe Arg
65 70 75

Val Cys Phe Glu Gln Cys Cys Pro Trp Thr Phe Met Val Lys Leu  $\cdot 80$  85 90

Ile Asn Gln Asn Cys Asp Ser Ala Arg Thr Ser Asp Asp Arg Leu
95 100 105

Cys Arg Ser Val Ser

<210> 139

<211> 2044

<212> DNA

<213> Homo sapiens

<400> 139

ggggggggt gcctggagca cggcgctggg gccgcccgca gcgctcactc 50 gctcgcactc agtcgcggga ggcttccccg cgccggccgc gtcccgcccg 100 ctccccggca ccagaagttc ctctgcgcgt ccgacggcga catgggcgtc 150 cccacggccc tggaggccgg cagctggcgc tggggatccc tgctcttcgc 200 tetetteetg getgegteee taggteeggt ggeageette aaggtegeea 250 cgccgtattc cctgtatgtc tgtcccgagg ggcagaacgt caccctcacc 300 tgcaggctct tgggccctgt ggacaaaggg cacgatgtga ccttctacaa 350 gacgtggtac cgcagctcga ggggcgaggt gcagacctgc tcagagcgcc 400 ggcccatccg caacctcacg ttccaggacc ttcacctgca ccatggaggc 450 caccaggetg ccaacaccag ccacgacetg geteagegee aegggetgga 500 gtcggcctcc gaccaccatg gcaacttctc catcaccatg cgcaacctga 550 ccctgctgga tagcggcctc tactgctgcc tggtggtgga gatcaggcac 600 caccactcgg agcacagggt ccatggtgcc atggagctgc aggtgcagac 650 aggcaaagat gcaccatcca actgtgtggt gtacccatcc tcctcccagg 700 atagtgaaaa catcacggct gcagccctgg ctacgggtgc ctgcatcgta 750 ggaatcctct gcctcccct catcctgctc ctggtctaca agcaaaggca 800 ggcagcctcc aaccgccgtg cccaggagct ggtgcggatg gacagcaaca 850 ttcaagggat tgaaaacccc ggctttgaag cctcaccacc tgcccagggg 900 ataccegagg ccaaagteag geaceceetg teetatgtgg eccageggea 950 gccttctgag tctgggcggc atctgctttc ggagcccagc accccctgt 1000 ctcctccagg ccccggagac gtcttcttcc catccctgga ccctgtccct 1050 gactetecaa actttgaggt catetagece agetggggga cagtgggetg 1100 ttgtggctgg gtctggggca ggtgcatttg agccagggct ggctctgtga 1150 gtggcctcct tggcctcggc cctggttccc tccctcctgc tctgggctca 1200 gatactgtga catcccagaa gcccagcccc tcaacccctc tggatgctac 1250 atggggatgc tggacggctc agcccctgtt ccaaggattt tggggtgctg 1300 agattctccc ctagagacct gaaattcacc agctacagat gccaaatgac 1350 ttacatctta agaagtctca gaacgtccag cccttcagca gctctcgttc 1400 tgagacatga gccttgggat gtggcagcat cagtgggaca agatggacac 1450

<210> 140

<211> 311

<212> PRT

<213'> Homo sapiens

<400> 140

Met Gly Val Pro Thr Ala Leu Glu Ala Gly Ser Trp Arg Trp Gly
1 5 10 15

Ser Leu Leu Phe Ala Leu Phe Leu Ala Ala Ser Leu Gly Pro Val 20 25 30

Ala Ala Phe Lys Val Ala Thr Pro Tyr Ser Leu Tyr Val Cys Pro 35 40 45

Glu Gly Gln Asn Val Thr Leu Thr Cys Arg Leu Leu Gly Pro Val
50 55 60

Asp Lys Gly His Asp Val Thr Phe Tyr Lys Thr Trp Tyr Arg Ser 65 70 75

Ser Arg Gly Glu Val Gln Thr Cys Ser Glu Arg Arg Pro Ile Arg 80 85 90

Asn Leu Thr Phe Gln Asp Leu His Leu His His Gly Gly His Gln
95 100 105

Ala Ala Asn Thr Ser His Asp Leu Ala Gln Arg His Gly Leu Glu
110 115 120

Ser Ala Ser Asp His His Gly Asn Phe Ser Ile Thr Met Arg Asn 125 130 135

Leu Thr Leu Leu Asp Ser Gly Leu Tyr Cys Cys Leu Val Val Glu

	140		145		150
Ile Arg His	His His S 155	er Glu His	Arg Val 160	His Gly A	la Met Glu 165
Leu Gln Val	Gln Thr G	ly Lys Asp	Ala Pro 175	Ser Asn C	ys Val Val 180
Tyr Pro Ser	Ser Ser G 185	ln Asp Ser	Glu Asn 190	Ile Thr A	la Ala Ala 195
Leu Ala Thr	Gly Ala C 200	ys Ile Val	Gly Ile 205	Leu Cys L	eu Pro Leu 210
Ile Leu Leu	Leu Val T 215	yr Lys Gln	Arg Gln 220	Ala Ala S	er Asn Arg 225
Arg Ala Gln	Glu Leu V 230	al Arg Met	Asp Ser 235	Asn Ile G	ln Gly Ile 240
Glu Asn Pro	Gly Phe G 245	lu Ala Ser	Pro Pro 250	Ala Gln G	ly Ile Pro 255
Glu Ala Lys	Val Arg H 260	is Pro Leu	Ser Tyr 265	Val Ala G	ln Arg Gln 270
Pro Ser Glu	Ser Gly A 275	rg His Leu	Leu Ser 280	Glu Pro S	er Thr Pro 285
Leu Ser Pro	Pro Gly P 290	ro Gly Asp	Val Phe 295	Phe Pro S	er Leu Asp 300
Pro Val Pro	Asp Ser P 305	ro Asn Phe	Glu Val 310	Ile	

<210> 141 <211> 1732

<212> DNA

<213> Homo sapiens

## <400> 141

cocacegoric egegeetete cettetgetg gacetteett egteteteea 50
teteteete ettteeege gttetette eacetttete teeteeae 100
cttagacete cetteetgee etcetteet geecaceget getteetgge 150
cetteteega eecegeteta geageagaee teetggggte tgtgggttga 200
tetgtggeee etgtgeetee gtgteettt egteteett eeteeegaet 250
cegeteegg accageggee tgaeeetgg gaaaggatgg tteeegagt 300
gagggteete teeteettge tgggaetege getgetetgg tteeeetgg 350
acteecacge tegageeege eeagacatgt tetgeettt eeatgggaag 400
agatacteee eeggegagag etggeaceee taettggage eacaaggeet 450

gatgtactgc ctgcgctgta cctgctcaga gggcgcccat gtgagttgtt 500 accgcctcca ctgtccgcct gtccactgcc cccagcctgt gacggagcca 550 cagcaatget gteecaagtg tgtggaaeet caeaeteeet etggaeteeg 600 ggccccacca aagtcctgcc agcacaacgg gaccatgtac caacacggag 650 agatetteag tgeceatgag etgtteeeet eeegeetgee eaaceagtgt 700 gtcctctgca gctgcacaga gggccagatc tactgcggcc tcacaacctg 750 ccccgaacca ggctgcccag cacccctccc actgccagac tcctgctgcc 800 aagcctgcaa agatgaggca agtgagcaat cggatgaaga ggacagtgtg 850 cagtcgctcc atggggtgag acatcctcag gatccatgtt ccagtgatgc 900 tgggagaaag agaggeeegg geaceeeage eeceaetgge eteagegeee 950 ctctgagett catecetege caetteagae ecaagggage aggeageaca 1000 actgtcaaga tcgtcctgaa ggagaaacat aagaaagcct gtgtgcatgg 1050 cgggaagacg tactcccacg gggaggtgtg gcacccggcc ttccgtgcct 1100 tcggcccctt gccctgcatc ctatgcacct gtgaggatgg ccgccaggac 1150 tgccagcgtg tgacctgtcc caccgagtac ccctgccgtc accccgagaa 1200 agtggctggg aagtgctgca agatttgccc agaggacaaa gcagaccctg 1250 gccacagtga gatcagttct accaggtgtc ccaaggcacc gggccgggtc 1300 ctcgtccaca catcggtatc cccaagccca gacaacctgc gtcgctttgc 1350 cctggaacac gaggcctcgg acttggtgga gatctacctc tggaagctgg 1400 taaaagatga ggaaactgag gctcagagag gtgaagtacc tggcccaagg 1450 ccacacagcc agaatcttcc acttgactca gatcaagaaa gtcaggaagc 1500 aagacttcca gaaagaggca cagcacttcc gactgctcgc tggcccccac 1550 gaaggtcact ggaacgtctt cctagcccag accctggagc tgaaggtcac 1600 ggccagtcca gacaaagtga ccaagacata acaaagacct aacagttgca 1650 gatatgagct gtataattgt tgttattata tattaataaa taagaagttg 1700 cattaccctc aaaaaaaaaa aaaaaaaaa aa 1732

<sup>&</sup>lt;210> 142

<sup>&</sup>lt;211> 451

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 142

Met Val Pro Glu Val Arg Val Leu Ser Ser Leu Leu Gly Leu Ala Leu Leu Trp Phe Pro Leu Asp Ser His Ala Arg Ala Arg Pro Asp Met Phe Cys Leu Phe His Gly Lys Arg Tyr Ser Pro Gly Glu Ser Trp His Pro Tyr Leu Glu Pro Gln Gly Leu Met Tyr Cys Leu Arg Cys Thr Cys Ser Glu Gly Ala His Val Ser Cys Tyr Arg Leu His Cys Pro Pro Val His Cys Pro Gln Pro Val Thr Glu Pro Gln Gln Cys Cys Pro Lys Cys Val Glu Pro His Thr Pro Ser Gly Leu Arg Ala Pro Pro Lys Ser Cys Gln His Asn Gly Thr Met Tyr Gln His Gly Glu Ile Phe Ser Ala His Glu Leu Phe Pro Ser Arg Leu Pro Asn Gln Cys Val Leu Cys Ser Cys Thr Glu Gly Gln Ile Tyr Cys Gly Leu Thr Thr Cys Pro Glu Pro Gly Cys Pro Ala Pro Leu Pro Leu Pro Asp Ser Cys Cys Gln Ala Cys Lys Asp Glu Ala Ser Glu Gln Ser Asp Glu Glu Asp Ser Val Gln Ser Leu His Gly Val Arq His Pro Gln Asp Pro Cys Ser Ser Asp Ala Gly Arg Lys Arg Gly Pro Gly Thr Pro Ala Pro Thr Gly Leu Ser Ala Pro Leu Ser Phe Ile Pro Arg His Phe Arg Pro Lys Gly Ala Gly Ser Thr Thr Val Lys Ile Val Leu Lys Glu Lys His Lys Lys Ala Cys Val His Gly Gly Lys Thr Tyr Ser His Gly Glu Val Trp His Pro Ala Phe Arg Ala Phe Gly Pro Leu Pro Cys Ile Leu Cys Thr Cys Glu Asp Gly 285 Arg Gln Asp Cys Gln Arg Val Thr Cys Pro Thr Glu Tyr Pro Cys

				290					295					300
Arg	His	Pro	Glu	Lys 305	Val	Ala	Gly	Lys	Cys 310	Cys	Lys	Ile	Cys	Pro 315
Glu	Asp	Lys	Ala	Asp 320	Pro	Gly	His	Ser	Glu 325	Ile	Ser	Ser	Thr	Arg 330
Cys	Pro	Lys	Ala	Pro 335	Gly	Arg	Val	Leu	Val 340	His	Thr	Ser	Val	Ser 345
Pro	Ser	Pro	Asp	Asn 350	Leu	Arg	Arg	Phe	Ala 355	Leu	Glu	His	Glu	Ala 360
Ser	Asp	Leu	Val	Glu 365	Ile	Tyr	Leu	Trp	Lys 370	Leu	Val	Lys	Asp	Glu 375
Glu	Thr	Glu	Ala	Gln 380	Arg	Gly	Glu	Val	Pro 385	Gly	Pro	Arg	Pro	His 390
Ser	Gln	Asn	Leu	Pro 395	Leu	Asp	Ser	Asp	Gln 400	Glu	Ser	Gln	Glu	Ala 405
Arg	Leu	Pro	Glu	Arg 410	Gly	Thr	Ala	Leu	Pro 415	Thr	Ala	Arg	Trp	Pro 420
Pro	Arg	Arg	Ser	Leu 425	Glu	Arg	Leu	Pro	Ser 430	Pro	Asp	Pro	Gly	Ala 435
Glu	Gly	His	Gly	Gln 440	Ser	Arg	Gln	Ser	Asp 445	Gln	Asp	Ile	Thr	Lys 450
Thr														

<210> 143 <211> 693

<212> DNA

<213> Homo sapiens

<400> 143

ctagcctgcg ccaagggta gtgagaccgc gcggcaacag cttgcggctg 50 cggggagctc ccgtgggcgc tccgctggct gtgcaggcgg ccatggattc 100 cttgcggaaa atgctgatct cagtcgcaat gctgggcgca ggggctggcg 150 tgggctacgc gctcctcgtt atcgtgaccc cgggagagcg gcggaagcag 200 gaaatgctaa aggagatgcc actgcaggac ccaaggagca gggaggaggc 250 ggccaggacc cagcagctat tgctggccac tctgcaggag gcagcgacca 300 cgcaggagaa cgtggcctgg aggaagaact ggatggttgg cggcgaaggc 350 ggcgccagcg ggaggtcacc gtgagaccgg acttgcctcc gtgggcgcc 400 gaccttggct tgggcgcagg aatccgaggc agcctttctc cttcgtggc 450

<210> 144

<211> 93

<212> PRT

<213> Homo sapiens

<400> 144

Met Asp Ser Leu Arg Lys Met Leu Ile Ser Val Ala Met Leu Gly
1 5 10 15

Ala Gly Ala Gly Val Gly Tyr Ala Leu Leu Val Ile Val Thr Pro
20 25 30

Gly Glu Arg Arg Lys Gln Glu Met Leu Lys Glu Met Pro Leu Gln
35 40 45

Asp Pro Arg Ser Arg Glu Glu Ala Ala Arg Thr Gln Gln Leu Leu 50 55 60

Leu Ala Thr Leu Gln Glu Ala Ala Thr Thr Gln Glu Asn Val Ala 65 70 75

Trp Arg Lys Asn Trp Met Val Gly Gly Glu Gly Gly Ala Ser Gly 80 85 90

Arg Ser Pro

<210> 145

<211> 1883

<212> DNA

<213> Homo sapiens

<400> 145

caggagagaa ggcaccgccc ccaccccgcc tccaaagcta accctcggcc 50
ttgaggggaa gaggctgact gtacgttcct tctactctgg caccactctc 100
caggctgcca tggggcccag cacccctctc ctcatcttgt tccttttgtc 150
atggtcggga cccctccaag gacagcagca ccaccttgtg gagtacatgg 200
aacgccgact agctgctta gaggaacggc tggcccagtg ccaggaccag 250
agtagtcggc atgctgctga gctgcgggac ttcaagaaca agatgctgcc 300
actgctggag gtggcagaga aggagcggaa ggcactcaga actgaggccg 350
acaccatctc cgggagagtg gatcgtctgg agcggaggt agactatctg 400

gagacccaga acccagctct gccctgtgta gagtttgatg agaaggtgac 450 tggaggccct gggaccaaag gcaagggaag aaggaatgag aagtacgata 500 tggtgacaga ctgtggctac acaatctctc aagtgagatc aatgaagatt 550 ctgaagcgat ttggtggccc agctggtcta tggaccaagg atccactggg 600 gcaaacagag aagatctacg tgttagatgg gacacagaat gacacagcct 650 ttgtcttccc aaggctgcgt gacttcaccc ttgccatggc tgcccggaaa 700 gcttcccgag tccgggtgcc cttcccctgg gtaggcacag ggcagctggt 750 atatggtggc tttctttatt ttgctcggag gcctcctgga agacctggtg 800 gaggtggtga gatggagaac actttgcagc taatcaaatt ccacctggca 850 aaccgaacag tggtggacag ctcagtattc ccagcagagg ggctgatccc 900 cccctacggc ttgacagcag acacctacat cgacctggta gctgatgagg 950 aaggtctttg ggctgtctat gccacccggg aggatgacag gcacttgtgt 1000 ctggccaagt tagatccaca gacactggac acagagcagc agtgggacac 1050 accatgtccc agagagaatg ctgaggctgc ctttgtcatc tgtgggaccc 1100 tctatgtcgt ctataacacc cgtcctgcca gtcgggcccg catccagtgc 1150 tcctttgatg ccagcggcac cctgacccct gaacgggcag cactccctta 1200 ttttccccgc agatatggtg cccatgccag cctccgctat aacccccgag 1250 aacgccagct ctatgcctgg gatgatggct accagattgt ctataagctg 1300 gagatgagga agaaagagga ggaggtttga ggagctagcc ttgttttttg 1350 catctttctc actcccatac atttatatta tatccccact aaatttcttg 1400 ttcctcattc ttcaaatgtg ggccagttgt ggctcaaatc ctctatattt 1450 ttagccaatg gcaatcaaat tetttcaget cetttgttte atacggaact 1500 ccagatcctg agtaatcctt ttagagcccg aagagtcaaa accctcaatg 1550 ttccctcctg ctctcctgcc ccatgtcaac aaatttcagg ctaaggatgc 1600 cccagaccca gggctctaac cttgtatgcg ggcaggccca gggagcaggc 1650 agcagtgttc ttcccctcag agtgacttgg ggagggagaa ataggaggag 1700 acgtccagct ctgtcctctc ttcctcactc ctcccttcag tgtcctgagg 1750 aacaggactt tctccacatt gttttgtatt gcaacatttt gcattaaaag 1800 

## aaaaaaaaaa aaaaaaaaaa aaa 1883

<210> 146

<211> 406

<212> PRT

<213> Homo sapiens

<400> 146

Met Gly Pro Ser Thr Pro Leu Leu Ile Leu Phe Leu Leu Ser Trp
1 5 10 15

Ser Gly Pro Leu Gln Gly Gln Gln His His Leu Val Glu Tyr Met 20 25 30

Glu Arg Arg Leu Ala Ala Leu Glu Glu Arg Leu Ala Gln Cys Gln
35 40 45

Asp Gln Ser Ser Arg His Ala Ala Glu Leu Arg Asp Phe Lys Asn 50 55 60

Lys Met Leu Pro Leu Leu Glu Val Ala Glu Lys Glu Arg Glu Ala 65 70 75

Leu Arg Thr Glu Ala Asp Thr Ile Ser Gly Arg Val Asp Arg Leu
80 85 90

Glu Arg Glu Val Asp Tyr Leu Glu Thr Gln Asn Pro Ala Leu Pro 95 100 105

Cys Val Glu Phe Asp Glu Lys Val Thr Gly Gly Pro Gly Thr Lys 110 115 120

Gly Lys Gly Arg Arg Asn Glu Lys Tyr Asp Met Val Thr Asp Cys 125 130 135

Gly Tyr Thr Ile Ser Gln Val Arg Ser Met Lys Ile Leu Lys Arg 140 145 150

Phe Gly Gly Pro Ala Gly Leu Trp Thr Lys Asp Pro Leu Gly Gln
155 160 165

Thr Glu Lys Ile Tyr Val Leu Asp Gly Thr Gln Asn Asp Thr Ala 170 175 180

Phe Val Phe Pro Arg Leu Arg Asp Phe Thr Leu Ala Met Ala Ala 185 190 195

Arg Lys Ala Ser Arg Val Arg Val Pro Phe Pro Trp Val Gly Thr

Gly Gln Leu Val Tyr Gly Gly Phe Leu Tyr Phe Ala Arg Arg Pro

Pro Gly Arg Pro Gly Gly Gly Glu Met Glu Asn Thr Leu Gln 230 235 240

Leu Ile Lys Phe His Leu Ala Asn Arg Thr Val Val Asp Ser Ser 245 250 250

```
        Val
        Phe
        Pro
        Ala
        Glu
        Glu
        Leu
        Ile
        Pro
        Pro
        Tyr
        Gly
        Leu
        Thr
        Ala
        Asp
        Tyr
        Gly
        Leu
        Tyr
        Ala
        Asp
        Leu
        Val
        Ala
        Asp
        Asp</th
```

<210> 147 <211> 2052 <212> DNA <213> Homo sapiens

<400> 147
 gacagctgtg tctcgatgga gtagactctc agaacagcgc agtttgccct 50
 ccgctcacgc agagcctctc cgtggcttcc gcaccttgag cattaggcca 100
 gttctcctct tctctctaat ccatccgtca cctctctgt catccgttc 150
 catgccgtga ggtccattca cagaacacat ccatggctct catgctcagt 200
 ttggttctga gtctcctcaa gctgggatca gggcagtggc aggtgtttgg 250
 gccagacaag cctgtccagg ccttggtggg ggaggacgca gcattctcct 300
 ġtttcctgtc tcctaagacc aatgcagagg ccatggaagt gcggttcttc 350
 aggggccagt tctctagcgt ggtccacctc tacagggacg ggaaggacca 400
 gccatttatg cagatgccac agtatcaagg caggacaaaa ctggtgaagg 450
 attctattgc ggaggggcgc atctctctga ggctggaaaa cattactgtg 500

ttggatgctg gcctctatgg gtgcaggatt agttcccagt cttactacca 550 gaaggccatc tgggagctac aggtgtcagc actgggctca gttcctctca 600 tttccatcac gggatatgtt gatagagaca tccagctact ctgtcagtcc 650 tcgggctggt tcccccggcc cacagcgaag tggaaaggtc cacaaggaca 700 ggatttgtcc acagactcca ggacaaacag agacatgcat ggcctgtttg 750 atgtggagat ctctctgacc gtccaagaga acgccgggag catatcctgt 800 tccatgcggc atgctcatct gagccgagag gtggaatcca gggtacagat 850 aggagatacc tttttcgagc ctatatcgtg gcacctggct accaaagtac 900 tgggaatact ctgctgtggc ctattttttg gcattgttgg actgaagatt 950 ttcttctcca aattccagtg gaaaatccag gcggaactgg actggagaag 1000 aaagcacgga caggcagaat tgagagacgc ccggaaacac gcagtggagg 1050 tgactctgga tccagagacg gctcacccga agctctgcgt ttctgatctg 1100 aaaactgtaa cccatagaaa agctccccag gaggtgcctc actctgagaa 1150 gagatttaca aggaagagtg tggtggcttc tcagagtttc caagcaggga 1200 aacattactg ggaggtggac ggaggacaca ataaaaggtg gcgcgtggga 1250 gtgtgccggg atgatgtgga caggaggaag gagtacgtga ctttgtctcc 1300 cgatcatggg tactgggtcc tcagactgaa tggagaacat ttgtatttca 1350 cattaaatcc ccgttttatc agcgtcttcc ccaggacccc acctacaaaa 1400 ataggggtct tcctggacta tgagtgtggg accatctcct tcttcaacat 1450 aaatgaccag tcccttattt ataccctgac atgtcggttt gaaggcttat 1500 tgaggcccta cattgagtat ccgtcctata atgagcaaaa tggaactccc 1550 atagtcatct gcccagtcac ccaggaatca gagaaagagg cctcttggca 1600 aagggcctct gcaatcccag agacaagcaa cagtgagtcc tcctcacagg 1650 caaccacgcc cttcctcccc aggggtgaaa tgtaggatga atcacatccc 1700 acattettet ttagggatat taaggtetet eteccagate caaagteeg 1750 cagcagccgg ccaaggtggc ttccagatga agggggactg gcctgtccac 1800 atgggagtca ggtgtcatgg ctgccctgag ctgggaggga agaaggctga 1850 cattacattt agtttgctct cactccatct ggctaagtga tcttgaaata 1900 ccacctctca ggtgaagaac cgtcaggaat tcccatctca caggctgtgg 1950

tgtagattaa gtagacaagg aatgtgaata atgcttagat cttattgatg 2000 acagagtgta tcctaatggt ttgttcatta tattacactt tcagtaaaaa 2050 aa 2052

<210> 148

<211> 500

<212> PRT

<213> Homo sapiens

<400> 148

Met Ala Leu Met Leu Ser Leu Val Leu Ser Leu Leu Lys Leu Gly
1 5 10 15

Ser Gly Gln Trp Gln Val Phe Gly Pro Asp Lys Pro Val Gln Ala 20 25 30

Leu Val Gly Glu Asp Ala Ala Phe Ser Cys Phe Leu Ser Pro Lys 35 40 45

Thr Asn Ala Glu Ala Met Glu Val Arg Phe Phe Arg Gly Gln Phe 50 55 60

Ser Ser Val Val His Leu Tyr Arg Asp Gly Lys Asp Gln Pro Phe 65 70 75

Met Gln Met Pro Gln Tyr Gln Gly Arg Thr Lys Leu Val Lys Asp . 80 85 90

Ser Ile Ala Glu Gly Arg Ile Ser Leu Arg Leu Glu Asn Ile Thr 95 100 105

Val Leu Asp Ala Gly Leu Tyr Gly Cys Arg Ile Ser Ser Gln Ser 110 115 120

Tyr Tyr Gln Lys Ala Ile Trp Glu Leu Gln Val Ser Ala Leu Gly
125 130 135

Ser Val Pro Leu Ile Ser Ile Thr Gly Tyr Val Asp Arg Asp Ile 140 145 150

Gln Leu Leu Cys Gln Ser Ser Gly Trp Phe Pro Arg Pro Thr Ala 155 160 165

Lys Trp Lys Gly Pro Gln Gly Gln Asp Leu Ser Thr Asp Ser Arg
170 175 180

Thr Asn Arg Asp Met His Gly Leu Phe Asp Val Glu Ile Ser Leu 185 190 195

Thr Val Gln Glu Asn Ala Gly Ser Ile Ser Cys Ser Met Arg His 200 205 210

Ala His Leu Ser Arg Glu Val Glu Ser Arg Val Gln Ile Gly Asp 215 220 225

Thr Phe Phe Glu Pro Ile Ser Trp His Leu Ala Thr Lys Val Leu

				230					235					240
Gly	Ile	Leu	Суѕ	Cys 245	Gly	Leu	Phe	Phe	Gly 250	Ile	Val	Gly	Leu	Lys 255
Ile	Phe	Phe	Ser	Lys 260	Phe	Gln	Trp	Lys	Ile 265	Gln	Ala	Glu	Leu	Asp 270
Trp	Arg	Arg	Lys	His 275	Gly	Gln	Ala	Glu	Leu 280	Arg	Asp	Ala	Arg	Lys 285
His	Ala	Val	Glu	Val 290	Thr	Leu	Asp	Pro	Glu 295	Thr	Ala	His	Pro	Lys 300
Leu	Суз	Val	Ser	Asp 305	Leu	Lys	Thr	Val	Thr 310	His	Arg	Lys	Ala	Pro 315
Gln	Glu	Val	Pro	His 320	Ser	Glu	Lys	Arg	Phe 325	Thr	Arg	Lys	Ser	Val 330
Val	Ala	Ser	Gln	Ser 335	Phe	Gln	Ala	Gly	Lys 340	His	Tyr	Trp	Glu	Val 345
Asp	Gly	Gly	His	Asn 350	Lys	Arg	Trp	Arg	Val 355	Gly	Val	Cys	Arg	Asp 360
Asp	Val	Asp	Arg	Arg 365	Lys	Glu	Tyr	Val	Thr 370	Leu	Ser	Pro	Asp	His 375
Gly	Tyr	Trp	Val	Leu 380	Arg	Leu	Asn	Gly	Glu 385	His	Leu	Tyr	Phe	Thr 390
Leu	Asn	Pro	Arg	Phe 395	Ile	Ser	Val	Phe	Pro 400	Arg	Thr	Pro	Pro	Thr 405
Lys	Ile	Gly	Val	Phe 410	Leu	Asp	Tyr	Glu	Cys 415	Gly	Thr	Ile	Ser	Phe 420
Phe	Asn	Ile	Asn	Asp 425	Gln	Ser	Leu	Ile	Tyr 430	Thr	Leu	Thr	Cys	Arg 435
Phe	Glu	Gly	Leu	Leu 440	Arg	Pro	Tyr	Ile	Glu 445	Tyr	Pro	Ser	Tyr	Asn 450
Glu	Gln	Asn	Gly	Thr 455	Pro	Ile	Val	Ile	Cys 460	Pro	Val	Thr	Gln	Glu 465
Ser	Glu	Lys	Glu	Ala 470	Ser	Trp	Gln	Arg	Ala 475	Ser	Ala	Ile	Pro	Glu 480
Thr	Ser	Asn	Ser	Glu 485	Ser	Ser	Ser	Gln	Ala 490	Thr	Thr	Pro	Phe	Leu 495
Pro	Arg	Gly	Glu	Met 500										
<210	> 149	)												

<210> 149 <211> 24

```
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 149
 gcgtggtcca cctctacagg gacg 24
<210> 150
<211> 23
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-23
<223> Synthetic construct.
<400> 150
 ggaactgacc cagtgctgac acc 23
<210> 151
<211> 45
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-45
<223> Synthetic construct.
<400> 151
 gcagatgcca cagtatcaag gcaggacaaa actggtgaag gattc 45
<210> 152
<211> 2294
<212> DNA
<213> Homo sapiens
<400> 152
 gcgatggtgc gcccggtggc ggtggcggcg gcggttgcgg aggcttcctt 50
 ggtcggattg caacgaggag aagatgactg accaaccgac tggctgaatg 100
 aatgaatggc ggagccgagc gcgccatgag gagcctgccg agcctgggcg 150
 gcctcgccct gttgtgctgc gccgccgccg ccgccgccgt cgcctcagcc 200
 gcctcggcgg ggaatgtcac cggtggcggc ggggccgcgg ggcaggtgga 250
 cgcgtcgccg ggccccgggt tgcggggcga gcccagccac cccttcccta 300
 gggcgacggc teceaeggce caggececga ggacegggee eeegegegee 350
 accetccace gaccectgge tgcgacttct ccagcccagt ccccggagac 400
```

cacccctctt tgggcgactg ctggaccctc ttccaccacc tttcaggcgc 450 cgctcggccc ctcgccgacc accctccgg cggcggaacg cacttcgacc 500 acctctcagg cgccgaccag acccgcgccg accacccttt cgacgaccac 550 tggcccggcg ccgaccaccc ctgtagcgac caccgtaccg gcgcccacga 600 ctccccggac cccgaccccc gatctcccca gcagcagcaa cagcagcgtc 650 ctccccaccc cacctgccac cgaggccccc tcttcgcctc ctccagagta 700 tgtatgtaac tgctctgtgg ttggaagcct gaatgtgaat cgctgcaacc 750 agaccacagg gcagtgtgag tgtcggccag gttatcaggg gcttcactgt 800 gaaacctgca aagagggctt ttacctaaat tacacttctg ggctctgtca 850 gccatgtgac tgtagtccac atggagctct cagcataccg tgcaacaggt 900 aagcaacaga gggtggaact gaagtttatt ttattttagc aagggaaaaa 950 aaaaggctgc tactctcaag gaccatactg gtttaaacaa aggaggatga 1000 gggtcataga tttacaaaat attttatata cttttattct cttactttat 1050 atgttatatt taatgtcagg atttaaaaac atctaattta ctgatttagt 1100 tcttcaaaag cactagagtc gccaattttt ctctgggata atttctgtaa 1150 atttcatggg aaaaaattat tgaagaataa atctgctttc tggaagggct 1200 ttcaggcatg aaacctgcta ggaggtttag aaatgttctt atgtttatta 1250 atataccatt ggagtttgag gaaatttgtt gtttggttta tttttctctc 1300 taatcaaaat tctacatttg tttctttgga catctaaagc ttaacctggg 1350 ggtaccctaa tttatttaac tagtggtaag tagactggtt ttactctatt 1400 taccagtaca tttttgagac caaaagtaga ttaagcagga attatcttta 1450 aactattatg ttatttggag gtaatttaat ctagtggaat aatgtactgt 1500 tatctaagca tttgccttgt actgcactga aagtaattat tctttgacct 1550 tatgtgaggc acttggcttt ttgtggaccc caagtcaaaa aactgaagag 1600 acagtattaa ataatgaaaa aaataatgac aggttatact cagtgtaacc 1650 tgggtataac ccaagatctg ctgccactta cgagctgtgt tccttgggca 1700 agtaatttcc tttcactgag cttgtttctt ctcaaggttg ttgtgaagat 1750 taaatgagtt gatatatata aaatgcctag cacatgtcac tcaataaatt 1800 ctggtttgtt ttaatttcaa aggaatatta tggactgaaa tgagagaaca 1850

<210> 153

<211> 258

<212> PRT

<213> Homo sapiens

<400> 153

Met Arg Ser Leu Pro Ser Leu Gly Gly Leu Ala Leu Leu Cys Cys 1 5 10 15

Ala Ala Ala Ala Ala Val Ala Ser Ala Ala Ser Ala Gly Asn 20 25 30

Val Thr Gly Gly Gly Ala Ala Gly Gln Val Asp Ala Ser Pro 35 40 45

Gly Pro Gly Leu Arg Gly Glu Pro Ser His Pro Phe Pro Arg Ala 50 55 60

Thr Ala Pro Thr Ala Gln Ala Pro Arg Thr Gly Pro Pro Arg Ala 65 70 75

Thr Val His Arg Pro Leu Ala Ala Thr Ser Pro Ala Gln Ser Pro 80 85 90

Glu Thr Thr Pro Leu Trp Ala Thr Ala Gly Pro Ser Ser Thr Thr 95 100 105

Phe Gln Ala Pro Leu Gly Pro Ser Pro Thr Thr Pro Pro Ala Ala 110 115 120

Glu Arg Thr Ser Thr Thr Ser Gln Ala Pro Thr Arg Pro Ala Pro 125 130 135

Thr Thr Leu Ser Thr Thr Thr Gly Pro Ala Pro Thr Thr Pro Val

Ala Thr Thr Val Pro Ala Pro Thr Thr Pro Arg Thr Pro Thr Pro 155 160 165

Asp Leu Pro Ser Ser Ser Asn Ser Ser Val Leu Pro Thr Pro Pro

170 175 180 Ala Thr Glu Ala Pro Ser Ser Pro Pro Pro Glu Tyr Val Cys Asn Cys Ser Val Val Gly Ser Leu Asn Val Asn Arg Cys Asn Gln Thr Thr Gly Gln Cys Glu Cys Arg Pro Gly Tyr Gln Gly Leu His Cys Glu Thr Cys Lys Glu Gly Phe Tyr Leu Asn Tyr Thr Ser Gly Leu Cys Gln Pro Cys Asp Cys Ser Pro His Gly Ala Leu Ser Ile Pro 250 Cys Asn Arg <210> 154 <211> 24 <212> DNA <213> Artificial <220> <221> Artificial Sequence <222> 1-24 <223> Synthetic construct. <400> 154 aactgctctg tggttggaag cctg 24 <210> 155 <211> 24 <212> DNA <213> Artificial <220> <221> Artificial Sequence <222> 1-24 <223> Synthetic construct. <400> 155 cagtcacatg gctgacagac ccac 24 <210> 156 <211> 38 <212> DNA <213> Artificial <220> <221> Artificial Sequence <222> 1-38 <223> Synthetic construct. <400> 156 aggttatcag gggcttcact gtgaaacctg caaagagg 38

```
<210> 157
<211> 689
<212> DNA
<213> Homo sapiens
<400> 157
tgcggcgcag tgtagae
ttctggcttt ggtctce
ctggaccctg agcagc
```

tgcggcgcag tgtagacctg ggaggatggg cggcctgctg ctggctgctt 50
ttctggcttt ggtctcggtg cccagggccc aggccgtgtg gttgggaaga 100
ctggaccctg agcagcttct tgggccctgg tacgtgcttg cggtggcctc 150
ccgggaaaag ggctttgcca tggagaagga catgaagaac gtcgtggggg 200
tggtggtgac cctcactcca gaaaacaacc tgcggacgct gtcctctcag 250
cacgggctgg gagggtgtga ccagagtgtc atggacctga taaagcgaaa 300
ctccggatgg gtgtttgaga atccctcaat aggcgtgctg gagctctggg 350
tgctggccac caacttcaga gactatgcca tcatcttcac tcagctggag 400
ttcggggacg agcccttcaa caccgtggag ctgtacagtc tgacggaac 450
agccagccag gaggccatgg ggctcttcac caagtggagc aggagcctgg 500
gcttcctgtc acagtagcag gcccagctgc agaaggacct cacctgtgct 550
cacaagatcc ttctgtgagt gctgcgtccc cagtagggat ggcgcccaca 600
gggtcctgtg acctcggca gtgtccaccc acctcgctca gcggctcccg 650

<210> 158
<211> 163
<212> PRT

<213> Homo sapiens

<400> 158

Met Gly Gly Leu Leu Leu Ala Ala Phe Leu Ala Leu Val Ser Val 1 5 10 15

gggcccagca ccagctcaga ataaagcgat tccacagca 689

Pro Arg Ala Gln Ala Val Trp Leu Gly Arg Leu Asp Pro Glu Gln 20 25 30

Leu Leu Gly Pro Trp Tyr Val Leu Ala Val Ala Ser Arg Glu Lys 35 40 45

Gly Phe Ala Met Glu Lys Asp Met Lys Asn Val Val Gly Val Val 50 55 60

Val Thr Leu Thr Pro Glu Asn Asn Leu Arg Thr Leu Ser Ser Gln 65 70 75

His Gly Leu Gly Gly Cys Asp Gln Ser Val Met Asp Leu Ile Lys 80 85 90

```
Arg Asn Ser Gly Trp Val Phe Glu Asn Pro Ser Ile Gly Val Leu 105
Glu Leu Trp Val Leu Ala Thr Asn Phe Arg Asp Tyr Ala Ile Ile 120
Phe Thr Gln Leu Glu Phe Gly Asp Glu Pro Phe Asn Thr Val Glu 135
Leu Tyr Ser Leu Thr Glu Thr Ala Ser Gln Glu Glu Ala Met Gly Leu 150
Phe Thr Lys Trp Ser Arg Ser Leu Gly Phe Leu Ser Gln
```

Phe Thr Lys Trp Ser Arg Ser Leu Gly Phe Leu Ser Glr 155 160

<210> 159 <211> 1665 <212> DNA <213> Homo sapiens

vero, nomo oap

<400> 159

aacagacgtt ccctcgcggc cctggcacct ctaaccccag acatgctgct 50 gctgctgctg cccctgctct gggggaggga gagggcggaa ggacagacaa 100 gtaaactgct gacgatgcag agttccgtga cggtgcagga aggcctgtgt 150 gtccatgtgc cctgctcctt ctcctacccc tcgcatggct ggatttaccc 200 tggcccagta gttcatggct actggttccg ggaaggggcc aatacagacc 250 aggatgctcc agtggccaca aacaacccag ctcgggcagt gtgggaggag 300 actcgggacc gattccacct ccttggggac ccacatacca agaattgcac 350 cctgagcatc agagatgcca gaagaagtga tgcggggaga tacttctttc 400 gtatggagaa aggaagtata aaatggaatt ataaacatca ccggctctct 450 gtgaatgtga cagccttgac ccacaggccc aacatcctca tcccaggcac 500 cctggagtcc ggctgccccc agaatctgac ctgctctgtg ccctgggcct 550 gtgagcaggg gacaccccct atgatctcct ggatagggac ctccgtgtcc 600 cccctggacc cctccaccac ccgctcctcg qtqctcaccc tcatcccaca 650 gccccaggac catggcacca gcctcacctg tcaggtgacc ttccctgggg 700 ccagcgtgac cacgaacaag accgtccatc tcaacgtgtc ctacccgcct 750 cagaacttga ccatgactgt cttccaagga gacggcacag tatccacagt 800 cttgggaaat ggctcatctc tgtcactccc agagggccag tctctgcgcc 850 tggtctgtgc agttgatgca gttgacagca atccccctgc caggctgagc 900 ctgagctgga gaggcctgac cctgtgcccc tcacagccct caaacccggg 950

ggtgctggag ctgccttggg tgcacctgag ggatgcagct gaattcacct 1000 gcagagctca gaaccctctc ggctctcagc aggtctacct gaacgtctcc 1050 ctgcagagca aagccacatc aggagtgact cagggggtgg tcgggggagc 1100 tggagccaca gccctggtct tcctgtcctt ctgcgtcatc ttcgttgtag 1150 tgaggtcctg caggaagaa tcggcaaggc cagcagcggg cgtgggagat 1200 acgggcatag aggatgcaaa cgctgtcagg ggttcagcct ctcaggggcc 1250 cctgactgaa ccttgggcag aagacagtcc cccagaccag cctccccag 1300 cttctgcccg ctcctcagtg ggggaaggag agctccagta tgcatcctc 1350 agcttccaga tggtgaagcc ttgggactcg cggggacagg aggccactga 1400 caccgagtac tcggagatca agatcacag atgagaaact gcagagact 1450 accctgattg agggatcaca gccctccag ggaaggaga agtcagagac 1500 tgattcttgt agaattaaca gccctcaacg tgatgagcta tgataacact 1550 atgaattatg tgcagagtga aaagcacaca ggctttagag tcaaagtatc 1600 tcaaacctga atccacag tgccctccct tttattttt taactaaaag 1650 acagacaaat tccta 1665

<210> 160

<211> 463

<212> PRT

<213> Homo sapiens

<400> 160

Met Leu Leu Leu Leu Pro Leu Leu Trp Gly Arg Glu Arg Ala 1 5 10 15

Glu Gly Gln Thr Ser Lys Leu Leu Thr Met Gln Ser Ser Val Thr

Val Gl<br/>n Glu Gly Leu Cys Val His Val Pro Cys Ser Phe Ser Tyr<br/> 35 40 45

Pro Ser His Gly Trp Ile Tyr Pro Gly Pro Val Val His Gly Tyr
50 55 60

Trp Phe Arg Glu Gly Ala Asn Thr Asp Gln Asp Ala Pro Val Ala
65 70 75

Thr Asn Asn Pro Ala Arg Ala Val Trp Glu Glu Thr Arg Asp Arg

Phe His Leu Leu Gly Asp Pro His Thr Lys Asn Cys Thr Leu Ser 95 100 105

Ile Arg Asp Ala Arg Arg Ser Asp Ala Gly Arg Tyr Phe Phe Arg

	110					115					120
Met Glu Lys	Gly Ser 125	Ile I	Lys	Trp	Asn	Tyr 130	Lys	His	His	Arg	Leu 135
Ser Val Asn	Val Thr 140	Ala	Leu	Thr	His	Arg 145	Pro	Asn	Ile	Leu	Ile 150
Pro Gly Thr	Leu Glu 155	Ser (	Gly	Cys	Pro	Gln 160	Asn	Leu	Thr	Cys	Ser 165
Val Pro Trp	Ala Cys 170	Glu	Gln	Gly	Thr	Pro 175	Pro	Met	Ile	Ser	Trp 180
Ile Gly Thr	Ser Val 185	Ser :	Pro	Leu	Asp	Pro 190	Ser	Thr	Thr	Arg	Ser 195
Ser Val Leu	Thr Leu 200	Ile	Pro	Gln	Pro	Gln 205	Asp	His	Gly	Thr	Ser 210
Leu Thr Cys	Gln Val 215	Thr	Phe	Pro	Gly	Ala 220	Ser	Val	Thr	Thr	Asn 225
Lys Thr Val	His Leu 230	Asn '	Val	Ser	Tyr	Pro 235	Pro	Gln	Asn	Leu	Thr 240
Met Thr Val	Phe Gln 245	Gly 2	Asp	Gly	Thr	Val 250	Ser	Thr	Val	Leu	Gly 255
Asn Gly Ser	Ser Leu 260	Ser 3	Leu	Pro	Glu	Gly 265	Gln	Ser	Leu	Arg	Leu 270
Val Cys Ala	Val Asp 275		Val	Asp	Ser	Asn 280	Pro	Pro	Ala	Arg	Leu 285
Ser Leu Ser	Trp Arg 290	Gly :	Leu	Thr	Leu	Cys 295	Pro	Ser	Gln	Pro	Ser 300
Asn Pro Gly	Val Leu 305	Glu :	Leu	Pro	Trp	Val 310	His	Leu	Arg	Asp	Ala 315
Ala Glu Phe	Thr Cys 320	Arg :	Ala	Gln	Asn	Pro 325	Leu	Gly	Ser	Gln	Gln 330
Val Tyr Leu	Asn Val	Ser 3	Leu	Gln	Ser	Lys 340	Ala	Thr	Ser	Gly	Val 345
Thr Gln Gly	Val Val 350	Gly	Gly	Ala	Gly	Ala 355	Thr	Ala	Leu	Val	Phe 360
Leu Ser Phe	Cys Val 365		Phe	Val	Val	Val 370	Arg	Ser	Cys	Arg	Lys 375
Lys Ser Ala	Arg Pro		Ala	Gly	Val	Gly 385	Asp	Thr	Gly	Ile	Glu 390
Asp Ala Asn	Ala Val 395	_	Gly	Ser	Ala	Ser 400	Gln	Gly	Pro	Leu	Thr 405

```
Glu Pro Trp Ala Glu Asp Ser Pro Pro Asp Gln Pro Pro Pro Ala 410

Ser Ala Arg Ser Ser Val Gly Glu Gly Glu Leu Gln Tyr Ala Ser 425

Leu Ser Phe Gln Met Val Lys Pro Trp Asp Ser Arg Gly Gln Glu 450
```

Ala Thr Asp Thr Glu Tyr Ser Glu Ile Lys Ile His Arg
455 460

<210> 161

<211> 739

<212> DNA

<213> Homo sapiens

<400> 161

gaccccagt gacctgcga ggtcggcagc acagagctct ggagatgaag 50
accctgttcc tgggtgtcac gctcggcctg gccgctgccc tgtccttcac 100
cctggaggag gaggatatca cagggacctg gtacgtgaag gccatggtgg 150
tcgataagga ctttccggag gacaggaggc ccaggaaggt gtccccagtg 200
aaggtgacag ccctgggcgg tgggaagttg gaagccacgt tcaccttcat 250
gagggaggat cggtgcatcc agaagaaaat cctgatgcgg aagacggagg 300
agcctggcaa atacagcgcc tatgggggac ggaagctcat gtacctgcag 350
gagctgccca ggagggacca ctacatcttt tactgcaaag accagcacca 400
tgggggcctg ctccacatgg gaaagcttgt gggtaggaat tctgatacca 450
accgggaggg acatttcac gcccctgcag acgggaagct gcgttcccga 550
acactaggca gcccccgggt ctgcacctc agagccacc ctaccaccag 600
acacagagcc cggaccacct ggacctaccc tccagccatg acccttccct 650
gctcccaccc acctgactcc aaaaaaaaa aaaaaaaaa aaaaaaaaa 739

<210> 162

<211> 170

<212> PRT

<213> Homo sapiens

<400> 162

Met Lys Thr Leu Phe Leu Gly Val Thr Leu Gly Leu Ala Ala Ala 1 5 10 15

Leu Ser Phe Thr Leu Glu Glu Glu Asp Ile Thr Gly Thr Trp Tyr

20 25 30 Val Lys Ala Met Val Val Asp Lys Asp Phe Pro Glu Asp Arg Arg Pro Arg Lys Val Ser Pro Val Lys Val Thr Ala Leu Gly Gly Lys Leu Glu Ala Thr Phe Thr Phe Met Arg Glu Asp Arg Cys Ile Gln Lys Lys Ile Leu Met Arg Lys Thr Glu Glu Pro Gly Lys Tyr Ser Ala Tyr Gly Gly Arg Lys Leu Met Tyr Leu Gln Glu Leu Pro Arg Arg Asp His Tyr Ile Phe Tyr Cys Lys Asp Gln His His Gly Gly Leu Leu His Met Gly Lys Leu Val Gly Arg Asn Ser Asp Thr Asn Arg Glu Ala Leu Glu Glu Phe Lys Lys Leu Val Gln Arg Lys Gly Leu Ser Glu Glu Asp Ile Phe Thr Pro Leu Gln Thr Gly Ser Cys Val Pro Glu His <210> 163 <211> 22 <212> DNA <213> Artificial <220> <221> Artificial Sequence <222> 1-22 <223> Synthetic construct. <400> 163 ggagatgaag accetgttce tg 22 <210> 164 <211> 26 <212> DNA <213> Artificial <220> <221> Artificial Sequence <222> 1-26

<400> 164

ggagatgaag accetgttee tgggtg 26

<223> Synthetic construct.

```
INTESTA ISTA
```

<400> 169

```
<210> 165
<211> 21
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-21
<223> Synthetic construct.
<400> 165
 gtcctccgga aagtccttat c 21
<210> 166
<211> 25
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-25
<223> Synthetic construct.
<400> 166
 gcctagtgtt cgggaacgca gcttc 25
<210> 167
<211> 50
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-50
<223> Synthetic construct.
<400> 167
 cagggacctg gtacgtgaag gccatggtgg tcgataagga ctttccggag 50
<210> 168
<211> 45
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-45
<223> Synthetic construct.
<400> 168
 ctgtccttca ccctggagga ggaggatatc acagggacct ggtac 45
<210> 169
<211> 1204
<212> DNA
<213> Homo sapiens
```

```
gttccgcaga tgcagaggtt gaggtggctg cgggactgga agtcatcggg 50
 cagaggtete acageageea aggaacetgg ggeeegetee tececetee 100
 aggccatgag gattctgcag ttaatcctgc ttgctctggc aacagggctt 150
 gtagggggag agaccaggat catcaagggg ttcgagtgca agcctcactc 200
 ccagccctgg caggcagccc tgttcgagaa gacgcggcta ctctgtgggg 250
 cgacgctcat cgccccaga tggctcctga cagcagccca ctgcctcaag 300
 ccccgctaca tagttcacct ggggcagcac aacctccaga aggaggaggg 350
 ctgtgagcag acceggacag ceaetgagte etteceecae eceggettea 400
 acaacageet ecceaacaaa gaceacegea atgacateat getggtgaag 450
 atggcatcgc cagtctccat cacctgggct gtgcgacccc tcaccctctc 500
 ctcacgctgt gtcactgctg gcaccagctg cctcatttcc ggctggggca 550
 gcacgtccag ccccagtta cgcctgcctc acaccttgcg atgcgccaac 600
 atcaccatca ttgagcacca gaagtgtgag aacgcctacc ccggcaacat 650
 cacagacacc atggtgtgt ccagcgtgca ggaagggggc aaggactcct 700
 gccagggtga ctccgggggc cctctggtct gtaaccagtc tcttcaaggc 750
 attatctcct ggggccagga tccgtgtgcg atcacccgaa agcctggtgt 800
 ctacacgaaa gtctgcaaat atgtggactg gatccaggag acgatgaaga 850
 acaattagac tggacccacc caccacagcc catcaccctc catttccact 900
 tggtgtttgg ttcctgttca ctctgttaat aagaaaccct aagccaagac 950
 cctctacgaa cattctttgg gcctcctgga ctacaggaga tgctgtcact 1000
 taataatcaa cctggggttc gaaatcagtg agacctggat tcaaattctg 1050
 ccttgaaata ttgtgactct gggaatgaca acacctggtt tgttctctgt 1100
tgtatcccca gccccaaaga cagctcctgg ccatatatca aggtttcaat 1150
aaaa 1204
<210> 170
<211> 250
<212> PRT
<213> Homo sapiens
<400> 170
Met Arg Ile Leu Gln Leu Ile Leu Leu Ala Leu Ala Thr Gly Leu
```

```
Val Gly Glu Thr Arg Ile Ile Lys Gly Phe Glu Cys Lys Pro
His Ser Gln Pro Trp Gln Ala Ala Leu Phe Glu Lys Thr Arg Leu
Leu Cys Gly Ala Thr Leu Ile Ala Pro Arg Trp Leu Leu Thr Ala
Ala His Cys Leu Lys Pro Arg Tyr Ile Val His Leu Gly Gln His
Asn Leu Gln Lys Glu Glu Gly Cys Glu Gln Thr Arg Thr Ala Thr
Glu Ser Phe Pro His Pro Gly Phe Asn Asn Ser Leu Pro Asn Lys
                                    100
Asp His Arg Asn Asp Ile Met Leu Val Lys Met Ala Ser Pro Val
Ser Ile Thr Trp Ala Val Arg Pro Leu Thr Leu Ser Ser Arg Cys
                                    130
Val Thr Ala Gly Thr Ser Cys Leu Ile Ser Gly Trp Gly Ser Thr
Ser Ser Pro Gln Leu Arg Leu Pro His Thr Leu Arg Cys Ala Asn
                                    160
Ile Thr Ile Ile Glu His Gln Lys Cys Glu Asn Ala Tyr Pro Gly
                170
Asn Ile Thr Asp Thr Met Val Cys Ala Ser Val Gln Glu Gly Gly
Lys Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Asn
Gln Ser Leu Gln Gly Ile Ile Ser Trp Gly Gln Asp Pro Cys Ala
Ile Thr Arg Lys Pro Gly Val Tyr Thr Lys Val Cys Lys Tyr Val
                                    235
Asp Trp Ile Gln Glu Thr Met Lys Asn Asn
```

<210> 171

<211> 25

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

245

<222> 1-25

<223> Synthetic construct.

```
<400> 171
 ggctgcggga ctggaagtca tcggg 25
<210> 172
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 172
 ctccaggcca tgaggattct gcag 24
<210> 173
<211> 18
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.
<400> 173
cctctggtct gtaaccag 18
<210> 174
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 174
tctgtgatgt tgccggggta ggcg 24
<210> 175
<211> 25
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-25
<223> Synthetic construct.
<400> 175
 cgtgtagaca ccaggctttc gggtg 25
<210> 176
<211> 18
<212> DNA
```

```
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.
<400> 176
cccttgatga tcctggtc 18
<210> 177
<211> 50
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-50
<223> Synthetic construct.
<400> 177
aggccatgag gattctgcag ttaatcctgc ttgctctggc aacagggctt 50
<210> 178
<211> 43
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-43
<223> Synthetic construct.
gagagaccag gatcatcaag gggttcgagt gcaagcctca ctc 43
<210> 179
<211> 907
<212> DNA
<213> Homo sapiens
<400> 179
gagcagtgtt ctgctggagc cgatgccaaa aaccatgcat ttcttattca 50
gattcattgt tttcttttat ctgtggggcc tttttactgc tcagagacaa 100
 aagaaagagg agagcaccga agaagtgaaa atagaagttt tgcatcgtcc 150
 agaaaactgc tctaagacaa gcaagaaggg agacctacta aatgcccatt 200
 atgacggcta cctggctaaa gacggctcga aattctactg cagccggaca 250
 caaaatgaag gccaccccaa atggtttgtt cttggtgttg ggcaagtcat 300
 aaaaggccta gacattgcta tgacagatat gtgccctgga gaaaagcgaa 350
 aagtagttat acccccttca tttgcatacg gaaaggaagg ctatgcagaa 400
```

<210> 180 <211> 222

<212> PRT

<213> Homo sapiens

<400> 180

Met Pro Lys Thr Met His Phe Leu Phe Arg Phe Ile Val Phe Phe 1 5 10 15

Tyr Leu Trp Gly Leu Phe Thr Ala Gln Arg Gln Lys Lys Glu Glu
20 25 30

Ser Thr Glu Glu Val Lys Ile Glu Val Leu His Arg Pro Glu Asn 35 40 45

Cys Ser Lys Thr Ser Lys Lys Gly Asp Leu Leu Asn Ala His Tyr
50 55 60

Asp Gly Tyr Leu Ala Lys Asp Gly Ser Lys Phe Tyr Cys Ser Arg
65 70 75

Thr Gln Asn Glu Gly His Pro Lys Trp Phe Val Leu Gly Val Gly 80 85 90

Gln Val Ile Lys Gly Leu Asp Ile Ala Met Thr Asp Met Cys Pro 95 100 105

Gly Glu Lys Arg Lys Val Val Ile Pro Pro Ser Phe Ala Tyr Gly
110 115 120

Lys Glu Gly Tyr Ala Glu Gly Lys Ile Pro Pro Asp Ala Thr Leu 125 130 135

Ile Phe Glu Ile Glu Leu Tyr Ala Val Thr Lys Gly Pro Arg Ser 140 145 150

```
Ile Glu Thr Phe Lys Gln Ile Asp Met Asp Asn Asp Arg Gln Leu
Ser Lys Ala Glu Ile Asn Leu Tyr Leu Gln Arg Glu Phe Glu Lys
Asp Glu Lys Pro Arg Asp Lys Ser Tyr Gln Asp Ala Val Leu Glu
Asp Ile Phe Lys Lys Asn Asp His Asp Gly Asp Gly Phe Ile Ser
                                     205
Pro Lys Glu Tyr Asn Val Tyr Gln His Asp Glu Leu
                 215
<210> 181
<211> 22
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-22
<223> Synthetic construct.
<400> 181
gtgttctgct ggagccgatg cc 22
<210> 182
<211> 18
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.
<400> 182
gacatggaca atgacagg 18
<210> 183
<211> 18
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.
<400> 183
cctttcagga tgtaggag 18
<210> 184
<211> 18
<212> DNA
<213> Artificial
```

```
<220>
<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.
<400> 184
gatgtctgcc accccaag 18
<210> 185
<211> 27
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-27
<223> Synthetic construct.
<400> 185
gcatcctgat atgacttgtc acgtggc 27
<210> 186
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 186
tacaagaggg aagaggagtt gcac 24
<210> 187
<211> 52
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-52
<223> Synthetic construct.
 gcccattatg acggctacct ggctaaagac ggctcgaaat tctactgcag 50
 cc 52
<210> 188
<211> 573
<212> DNA
<213> Homo sapiens
<400> 188
 cagaaatgca gggaccattg cttcttccag gcctctgctt tctgctgagc 50
 ctctttggag ctgtgactca gaaaaccaaa acttcctgtg ctaagtgccc 100
```

cccaaatgct tcctgtgtca ataacactca ctgcacctgc aaccatggat 150 atacttctgg atctgggcag aaactattca cattcccctt ggagacatgt 200 aacgccaggc atggtggctc gegcctgtaa tcccagttct ttgggaagcc 250 aaggcaggtg gatcacctga ggtcaggagt ttgagaccag cctggccaac 300 atagtgaaac cccgtgtcta ctaaaaatac aaaaatcagc cgggcgtggt 350 ggtgcatgcc tgcaatccca gttactcggg aggctgaggc aggagaatcg 400 cttgaactca ggaggcagaa gttgcagtga acccagatcc tgccattgca 450 ctccagcatg gatgacagac caagactccg tctcaaaaaag aaaagatagt 500 ttcttgtttc atttcgcgac tgccctctca gtgtttcctg ggatcccctc 550 ccaaataaag tacttatatt ctc 573

<210> 189 <211> 74

<212> PRT

<213> Homo sapiens

<400> 189

Met Gln Gly Pro Leu Leu Pro Gly Leu Cys Phe Leu Leu Ser 1 5 10 15

Leu Phe Gly Ala Val Thr Gln Lys Thr Lys Thr Ser Cys Ala Lys 20 25 30

Cys Pro Pro Asn Ala Ser Cys Val Asn Asn Thr His Cys Thr Cys 35 40 45

Asn His Gly Tyr Thr Ser Gly Ser Gly Gln Lys Leu Phe Thr Phe 50 55 60

Pro Leu Glu Thr Cys Asn Ala Arg His Gly Gly Ser Arg Leu 65 70

<210> 190

<211> 24

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-24

<223> Synthetic construct.

<400> 190

agggaccatt gcttcttcca ggcc 24

<210> 191

<211> 24

<212> DNA

<213> Artificial

```
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 191
cgttacatgt ctccaagggg aatg 24
<210> 192
<211> 50
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-50
<223> Synthetic construct.
<400> 192
cctgtgctaa gtgcccccca aatgcttcct gtgtcaataa cactcactgc 50
<210> 193
<211> 1091
<212> DNA
<213> Homo sapiens
<400> 193
 caagcaggtc atccccttgg tgaccttcaa agagaagcag agagggcaga 50
ggtgggggc acagggaaag ggtgacctct gagattcccc ttttccccca 100
 gactttggaa gtgacccacc atggggctca gcatcttttt gctcctgtgt 150
 gttcttgggc tcagccaggc agccacaccg aagattttca atggcactga 200
 gtgtgggcgt aactcacagc cgtggcaggt ggggctgttt gagggcacca 250
 gcctgcgctg cgggggtgtc cttattgacc acaggtgggt cctcacagcg 300
 gctcactgca gcggcagcag gtactgggtg cgcctggggg aacacagcct 350
 cagccagete gaetggaeeg ageagateeg geacagegge ttetetgtga 400
 cccatcccgg ctacctggga gcctcgacga gccacgagca cgacctccgg 450
 ctgctgcggc tgcgcctgcc cgtccgcgta accagcagcg ttcaacccct 500
 geceetgeee aatgactgtg caacegetgg caeegagtge caegteteag 550
 gctggggcat caccaaccac ccacggaacc cattcccgga tctgctccag 600
 tgcctcaacc tctccatcgt ctcccatgcc acctgccatg gtgtgtatcc 650
 cgggagaatc acgagcaaca tggtgtgtgc aggcggcgtc ccggggcagg 700
 atgcctgcca gggtgattct gggggccccc tggtgtgtgg gggagtcctt 750
 caaggtctgg tgtcctgggg gtctgtgggg ccctgtggac aagatggcat 800
```

<210> 194

<211> 248

<212> PRT

<213> Homo sapiens

<400> 194

Met Gly Leu Ser Ile Phe Leu Leu Cys Val Leu Gly Leu Ser 1 5 10 15

Gln Ala Ala Thr Pro Lys Ile Phe Asn Gly Thr Glu Cys Gly Arg
20 25 30

Asn Ser Gln Pro Trp Gln Val Gly Leu Phe Glu Gly Thr Ser Leu 35 40 45

Arg Cys Gly Gly Val Leu Ile Asp His Arg Trp Val Leu Thr Ala 50 55 60

Ala His Cys Ser Gly Ser Arg Tyr Trp Val Arg Leu Gly Glu His
65 70 75

Ser Leu Ser Gln Leu Asp Trp Thr Glu Gln Ile Arg His Ser Gly 80 85 90

Phe Ser Val Thr His Pro Gly Tyr Leu Gly Ala Ser Thr Ser His 95 100 105

Glu His Asp Leu Arg Leu Leu Arg Leu Arg Leu Pro Val Arg Val

Thr Ser Ser Val Gln Pro Leu Pro Leu Pro Asn Asp Cys Ala Thr 125 130 135

Ala Gly Thr Glu Cys His Val Ser Gly Trp Gly Ile Thr Asn His 140 145 150

Pro Arg Asn Pro Phe Pro Asp Leu Leu Gln Cys Leu Asn Leu Ser 155 160 165

Ile Val Ser His Ala Thr Cys His Gly Val Tyr Pro Gly Arg Ile

Thr Ser Asn Met Val Cys Ala Gly Gly Val Pro Gly Gln Asp Ala 185 190 195

Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Gly Gly Val Leu

				200					205					210
Gln	Gly	Leu	Val	Ser 215	Trp	Gly	Ser	Val	Gly 220	Pro	Cys	Gly	Gln	Asp 225
Gly	Ile	Pro	Gly	Val 230	Tyr	Thr	Tyr		Cys 235	Lys	Tyr	Val	Asp	Trp 240

Ile Arg Met Ile Met Arg Asn Asn

<210> 195 <211> 1485 <212> DNA

<213> Homo sapiens

<400> 195

geggeeacae geagetagee ggageeegga ceaggegeet gtgeeteete 50 ctcgtccctc gccgcgtccg cgaagcctgg agccggggg agccccgcgc 100 tcgccatgtc gggcgagctc agcaacaggt tccaaggagg gaaggcgttc 150 ggcttgctca aagcccggca ggagaggagg ctggccgaga tcaaccggga 200 gtttctgtgt gaccagaagt acagtgatga agagaacctt ccagaaaagc 250 tcacagcctt caaagagaag tacatggagt ttgacctgaa caatgaaggc 300 gagattgacc tgatgtcttt aaagaggatg atggagaagc ttggtgtccc 350 caagacccac ctggagatga agaagatgat ctcagaggtg acaggagggg 400 tcagtgacac tatatcctac cgagactttg tgaacatgat gctggggaaa 450 cggtcggctg tcctcaagtt agtcatgatg tttgaaggaa aagccaacga 500 gagcagcccc aagccagttg gccccctcc agagagagac attgctagcc 550 tgccctgagg accccgcctg gactccccag ccttcccacc ccatacctcc 600 ctcccgatct tgctgccctt cttgacacac tgtgatctct ctctctca 650 tttgtttggt cattgagggt ttgtttgtgt tttcatcaat gtctttgtaa 700 agcacaaatt atctgcctta aaggggctct gggtcgggga atcctgagcc 750 ttgggtcccc tccctctt cttccctcct tccccgctcc ctgtgcagaa 800 gggctgatat caaaccaaaa actagagggg gcagggccag ggcagggagg 850 cttccagcct gtgttcccct cacttggagg aaccagcact ctccatcctt 900 tcagaaagtc tccaagccaa gttcaggctc actgacctgg ctctgacgag 950 gaccccaggc cactctgaga agaccttgga gtagggacaa ggctgcaggg 1000 cctctttcgg gtttccttgg acagtgccat ggttccagtg ctctggtgtc 1050 <210> 196 <211> 150

<212> PRT

<213> Homo sapiens

<400> 196

Met Ser Gly Glu Leu Ser Asn Arg Phe Gln Gly Gly Lys Ala Phe 1 5 10 15

Gly Leu Leu Lys Ala Arg Gln Glu Arg Arg Leu Ala Glu Ile Asn 20 25 30

Arg Glu Phe Leu Cys Asp Gln Lys Tyr Ser Asp Glu Glu Asn Leu 35 40 45

Pro Glu Lys Leu Thr Ala Phe Lys Glu Lys Tyr Met Glu Phe Asp 50 55 60

Leu Asn Asn Glu Gly Glu Ile Asp Leu Met Ser Leu Lys Arg Met 65 70 75

Met Glu Lys Leu Gly Val Pro Lys Thr His Leu Glu Met Lys Lys 80 85 90

Met Ile Ser Glu Val Thr Gly Gly Val Ser Asp Thr Ile Ser Tyr 95 100 105

Arg Asp Phe Val Asn Met Met Leu Gly Lys Arg Ser Ala Val Leu 110 115 120

Lys Leu Val Met Met Phe Glu Gly Lys Ala Asn Glu Ser Ser Pro 125 130 135

Lys Pro Val Gly Pro Pro Pro Glu Arg Asp Ile Ala Ser Leu Pro 140 145 150

<210> 197

<211> 4842

<212> DNA

<213> Homo sapiens

<400> 197 cgcgctcccc gcgcgcctcc tcgggctcca cgcgtcttgc cccgcagagg 50 cagcctcctc caggagcggg gccctgcaca ccatggcccc cgggtgggca 100 ggggtcggcg ccgccgtgcg cgcccgcctg gcgctggcct tggcgctggc 150 gagcgtcctg agtgggcctc cagccgtcgc ctgccccacc aagtgtacct 200 gctccgctgc cagcgtggac tgccacgggc tgggcctccg cgcggttcct 250 cggggcatcc cccgcaacgc tgagcgcctt gacctggaca gaaataatat 300 caccaggate accaagatgg acttegetgg geteaagaac eteegagtet 350 tgcatctgga agacaaccag gtcagcgtca tcgagagagg cgccttccag 400 gacctgaagc agctagagcg actgcgcctg aacaagaata agctgcaagt 450 ccttccagaa ttgcttttcc agagcacgcc gaagctcacc agactagatt 500 tgagtgaaaa ccagatccag gggatcccga ggaaggcgtt ccgcggcatc 550 accgatgtga agaacctgca actggacaac aaccacatca gctgcattga 600 agatggagcc ttccgagcgc tgcgcgattt ggagatcctt accctcaaca 650 acaacaacat cagtcgcatc ctggtcacca gcttcaacca catgccgaag 700 atccgaactc tgcgcctcca ctccaaccac ctctactgcg actgccacct 750 ggcctggctc tcggattggc tgcgacagcg acggacagtt ggccagttca 800 cactctgcat ggctcctgtg catttgaggg gcttcaacgt ggcggatgtg 850 cagaagaagg agtacgtgtg cccagcccc cactcggagc ccccatcctg 900 caatgccaac tccatctcct gcccttcgcc ctgcacgtgc agcaataaca 950 tcgtggactg tcgaggaaag ggcttgatgg agattcctgc caacttgccg 1000 gagggcatcg tcgaaatacg cctagaacag aactccatca aagccatccc 1050 tgcaggagcc ttcacccagt acaagaaact gaagcgaata gacatcagca 1100 agaatcagat atcggatatt gctccagatg ccttccaggg cctgaaatca 1150 ctcacatcgc tggtcctgta tgggaacaag atcaccgaga ttgccaaggg 1200 actgtttgat gggctggtgt ccctacagct gctcctcctc aatgccaaca 1250 agatcaactg cctgcgggtg aacacgtttc aggacctgca gaacctcaac 1300 ttgctctccc tgtatgacaa caagctgcag accatcagca aggggctctt 1350 cgcccctctg cagtccatcc agacactcca cttagcccaa aacccatttg 1400 tgtgcgactg ccacttgaag tggctggccg actacctcca ggacaacccc 1450

atcgagacaa gcggggcccg ctgcagcagc ccgcgccgac tcgccaacaa 1500 gcgcatcagc cagatcaaga gcaagaagtt ccgctgctca ggctccgagg 1550 attaccgcag caggttcagc agcgagtgct tcatggacct cgtgtgcccc 1600 gagaagtgtc gctgtgaggg cacgattgtg gactgctcca accagaagct 1650 ggtccgcatc ccaagccacc tccctgaata tgtcaccgac ctgcgactga 1700 atgacaatga ggtatctgtt ctggaggcca ctggcatctt caagaagttg 1750 cccaacctgc ggaaaataaa tctgagtaac aataagatca aggaggtgcg 1800 agagggaget ttegatggag cagecagegt geaggagetg atgetgaeag 1850 ggaaccagct ggagaccgtg cacgggcgcg tgttccgtgg cctcagtggc 1900 ctcaaaacct tgatgctgag gagtaacttg atcagctgtg tgagtaatga 1950 cacctttgcc ggcctgagtt cggtgagact gctgtccctc tatgacaatc 2000 ggatcaccac catcacccct ggggccttca ccacgcttgt ctccctgtcc 2050 accataaacc teetgteeaa eeeetteaac tgeaactgee acctggeetg 2100 gctcggcaag tggttgagga agaggcggat cgtcagtggg aaccctaggt 2150 gccagaagcc atttttcctc aaggagattc ccatccagga tgtggccatc 2200 caggacttca cctgtgatgg caacgaggag agtagctgcc agctgagccc 2250 gcgctgcccg gagcagtgca cctgtatgga gacagtggtg cgatgcagca 2300 acaaggggct ccgcgccctc cccagaggca tgcccaagga tgtgaccgag 2350 ctgtacctgg aaggaaacca cctaacagcc gtgcccagag agctgtccgc 2400 cctccgacac ctgacgctta ttgacctgag caacaacagc atcagcatgc 2450 tgaccaatta caccttcagt aacatgtctc acctctccac tctgatcctg 2500 agctacaacc ggctgaggtg catccccgtc cacgccttca acgggctgcg 2550 gtccctgcga gtgctaaccc tccatggcaa tgacatttcc agcgttcctg 2600 aaggeteett caaegaeete acatetettt eecatetgge getgggaace 2650 aacccactcc actgtgactg cagtcttcgg tggctgtcgg agtgggtgaa 2700 ggcggggtac aaggagcctg gcatcgcccg ctgcagtagc cctgagccca 2750 tggctgacag gctcctgctc accaccccaa cccaccgctt ccagtgcaaa 2800 gggccagtgg acatcaacat tgtggccaaa tgcaatgcct gcctctccag 2850 cccgtgcaag aataacggga catgcaccca ggaccctgtg gagctgtacc 2900

gctgtgcctg cccctacagc tacaagggca aggactgcac tgtgcccatc 2950 aacacctgca tccagaaccc ctgtcagcat ggaggcacct gccacctgag 3000 tgacagccac aaggatgggt tcagctgctc ctgccctctg ggctttgagg 3050 ggcagcggtg tgagatcaac ccagatgact gtgaggacaa cgactgcgaa 3100 aacaatgcca cctgcgtgga cgggatcaac aactacgtgt gtatctgtcc 3150 gcctaactac acaggtgagc tatgcgacga ggtgattgac cactgtgtgc 3200 ctgagctgaa cctctgtcag catgaggcca agtgcatccc cctggacaaa 3250 ggattcagct gcgagtgtgt ccctggctac agcgggaagc tctgtgagac 3300 agacaatgat gactgtgtgg cccacaagtg ccgccacggg gcccagtgcg 3350 tggacacaat caatggctac acatgcacct gccccaggg cttcagtgga 3400 cccttctgtg aacaccccc acccatggtc ctactgcaga ccagcccatg 3450 cgaccagtac gagtgccaga acggggccca gtgcatcgtg gtgcagcagg 3500 ageceaectg eegetgeeca eeaggetteg eeggeeceag atgegagaag 3550 ctcatcactg tcaacttcgt gggcaaagac tcctacgtgg aactggcctc 3600 cgccaaggtc cgaccccagg ccaacatctc cctgcaggtg gccactgaca 3650 aggacaacgg catcettete tacaaaggag acaatgacce cetggcactg 3700 gagetgtace agggeeacgt geggetggte tatgaeagee tgagtteece 3750 tccaaccaca gtgtacagtg tggagacagt gaatgatggg cagtttcaca 3800 gtgtggaget ggtgaegeta aaccagaece tgaaectagt agtggaeaaa 3850 ggaactccaa agagcctggg gaagctccag aagcagccag cagtgggcat 3900 caacagcccc ctctaccttg gaggcatccc cacctccacc ggcctctccg 3950 ccttgcgcca gggcacggac cggcctctag gcggcttcca cggatgcatc 4000 catgaggtgc gcatcaacaa cgagctgcag gacttcaagg ccctcccacc 4050 acagtecetg ggggtgteae caggetgeaa gteetgeaee gtgtgeaage 4100 acggcctgtg ccgctccgtg gagaaggaca gcgtggtgtg cgagtgccgc 4150 ccaggctgga ccggcccact ctgcgaccag gaggcccggg acccctgcct 4200 cggccacaga tgccaccatg gaaaatgtgt ggcaactggg acctcataca 4250 tgtgcaagtg tgccgagggc tatggagggg acttgtgtga caacaagaat 4300 gactetgeca atgeetgete ageetteaag tgteaceatg ggeagtgeea 4350

catctcagac caagggagc cctactgcct gtgccagccc ggctttagcg 4400 gcgagcactg ccaacaagag aatccgtgcc tgggacaagt agtccgagag 4450 gtgatccgcc gccagaaagg ttatgcatca tgtgccacag cctccaaggt 4500 gcccatcatg gaatgtcgtg ggggctgtgg gccccagtgc tgccagccca 4550 cccgcagcaa gcggcggaaa tacgtcttcc agtgcacgga cggctcctcg 4600 tttgtagaag aggtggagag acacttagag tgcggctgcc tcgcgtgttc 4650 ctaagcccct gcccgcctgc ctgccacctc tcggactcca gcttgatgga 4700 gttgggacag ccatgtgga ccccctggtg attcagcatg aaggaaatga 4750 agctggagag gaaggtaaag aagaagagaa tattaagtat attgtaaaat 4800 aaacaaaaaa tagaacttaa aaaaaaaaaa aaaaaaaaa aa 4842

<210> 198 <211> 1523 <212> PRT <213> Homo sapiens

<400> 198 Met Ala Pro Gly Trp Ala Gly Val Gly Ala Ala Val Arg Ala Arg Leu Ala Leu Ala Leu Ala Ser Val Leu Ser Gly Pro Pro Ala Val Ala Cys Pro Thr Lys Cys Thr Cys Ser Ala Ala Ser Val Asp Cys His Gly Leu Gly Leu Arg Ala Val Pro Arg Gly Ile Pro Arg Asn Ala Glu Arg Leu Asp Leu Asp Arg Asn Asn Ile Thr Arg Ile Thr Lys Met Asp Phe Ala Gly Leu Lys Asn Leu Arg Val Leu His Leu Glu Asp Asn Gln Val Ser Val Ile Glu Arg Gly Ala Phe 105 100 Gln Asp Leu Lys Gln Leu Glu Arg Leu Arg Leu Asn Lys Asn Lys 115 Leu Gln Val Leu Pro Glu Leu Leu Phe Gln Ser Thr Pro Lys Leu 135 130 Thr Arg Leu Asp Leu Ser Glu Asn Gln Ile Gln Gly Ile Pro Arg Lys Ala Phe Arg Gly Ile Thr Asp Val Lys Asn Leu Gln Leu Asp

160

165

Asn Asn His Ile Ser Cys Ile Glu Asp Gly Ala Phe Arg Ala Leu Arg Asp Leu Glu Ile Leu Thr Leu Asn Asn Asn Ile Ser Arg Ile Leu Val Thr Ser Phe Asn His Met Pro Lys Ile Arg Thr Leu 200 Arg Leu His Ser Asn His Leu Tyr Cys Asp Cys His Leu Ala Trp 215 Leu Ser Asp Trp Leu Arg Gln Arg Arg Thr Val Gly Gln Phe Thr 230 Leu Cys Met Ala Pro Val His Leu Arg Gly Phe Asn Val Ala Asp Val Gln Lys Lys Glu Tyr Val Cys Pro Ala Pro His Ser Glu Pro Pro Ser Cys Asn Ala Asn Ser Ile Ser Cys Pro Ser Pro Cys Thr Cys Ser Asn Asn Ile Val Asp Cys Arg Gly Lys Gly Leu Met Glu 290 Ile Pro Ala Asn Leu Pro Glu Gly Ile Val Glu Ile Arg Leu Glu 310 Gln Asn Ser Ile Lys Ala Ile Pro Ala Gly Ala Phe Thr Gln Tyr Lys Lys Leu Lys Arg Ile Asp Ile Ser Lys Asn Gln Ile Ser Asp Ile Ala Pro Asp Ala Phe Gln Gly Leu Lys Ser Leu Thr Ser Leu Val Leu Tyr Gly Asn Lys Ile Thr Glu Ile Ala Lys Gly Leu Phe 370 Asp Gly Leu Val Ser Leu Gln Leu Leu Leu Leu Asn Ala Asn Lys 385 Ile Asn Cys Leu Arg Val Asn Thr Phe Gln Asp Leu Gln Asn Leu 400 Asn Leu Ser Leu Tyr Asp Asn Lys Leu Gln Thr Ile Ser Lys Gly Leu Phe Ala Pro Leu Gln Ser Ile Gln Thr Leu His Leu Ala 430 Gln Asn Pro Phe Val Cys Asp Cys His Leu Lys Trp Leu Ala Asp 450 Tyr Leu Gln Asp Asn Pro Ile Glu Thr Ser Gly Ala Arg Cys Ser

				455					460					465
Ser	Pro	Arg	Arg	Leu 470	Ala	Asn	Lys	Arg	Ile 475	Ser	Gln	Ile	Lys	Ser 480
Lys	Lys	Phe	Arg	Cys 485	Ser	Gly	Ser	Glu	Asp 490	Tyr	Arg	Ser	Arg	Phe 495
Ser	Ser	Glu	Cys	Phe 500	Met	Asp	Leu	Val	Cys 505	Pro	Glu	Lys	Cys	Arg 510
Cys	Glu	Gly	Thr	Ile 515	Val	Asp	Cys	Ser	Asn 520	Gln	Lys	Leu	Val	Arg 525
Ile	Pro	Ser	His	Leu 530	Pro	Glu	Tyr	Val	Thr 535	Asp	Leu	Arg	Leu	Asn 540
Asp	Asn	Glu	Val	Ser 545	Val	Leu	Glu	Ala	Thr 550	Gly	Ile	Phe	Lys	Lys 555
Leu	Pro	Asn	Leu	Arg 560	Lys	Ile	Asn	Leu	Ser 565	Asn	Asn	Lys	Ile	Lys 570
Glu	Val	Arg	Glu	Gly 575	Ala	Phe	Asp	Gly	Ala 580	Ala	Ser	Val	Gln	Glu 585
Leu	Met	Leu	Thr	Gly 590	Asn	Gln	Leu	Glu	Thr 595	Val	His	Gly	Arg	Val 600
Phe	Arg	Gly	Leu	Ser 605	Gly	Leu	Lys	Thr	Leu 610	Met	Leu	Arg	Ser	Asn 615
Leu	Ile	Ser	Cys	Val 620	Ser	Asn	Asp	Thr	Phe 625	Ala	Gly	Leu	Ser	Ser 630
Val	Arg	Leu	Leu	Ser 635	Leu	Tyr	Asp	Asn	Arg 640	Ile	Thr	Thr	Ile	Thr 645
Pro	Gly	Ala	Phe	Thr 650	Thr	Leu	Val	Ser	Leu 655	Ser	Thr	Ile	Asn	Leu 660
Leu	Ser	Asn	Pro	Phe 665	Asn	Cys	Asn	Cys	His 670	Leu	Ala	Trp	Leu	Gly 675
Lys	Trp	Leu	Arg	Lys 680	Arg	Arg	Ile	Val	Ser 685	Gly	Asn	Pro	Arg	Cys 690
Gln	Lys	Pro	Phe	Phe 695	Leu	Lys	Glu	Ile	Pro 700	Ile	Gln	Asp	Val	Ala 705
Ile	Gln	Asp	Phe	Thr 710	Cys	Asp	Gly	Asn	Glu 715	Glu	Ser	Ser	Cys	Gln 720
Leu	Ser	Pro	Arg	Cys 725	Pro	Glu	Gln	Суз	Thr 730	Cys	Met	Glu	Thr	Val 735
Val	Arg	Cys	Ser	Asn 740	Lys	Gly	Leu	Arg	Ala 745	Leu	Pro	Arg	Gly	Met 750

Pro Lys Asp Val Thr Glu Leu Tyr Leu Glu Gly Asn His Leu Thr Ala Val Pro Arg Glu Leu Ser Ala Leu Arg His Leu Thr Leu Ile 775 Asp Leu Ser Asn Asn Ser Ile Ser Met Leu Thr Asn Tyr Thr Phe Ser Asn Met Ser His Leu Ser Thr Leu Ile Leu Ser Tyr Asn Arg Leu Arg Cys Ile Pro Val His Ala Phe Asn Gly Leu Arg Ser Leu 815 Arg Val Leu Thr Leu His Gly Asn Asp Ile Ser Ser Val Pro Glu 835 830 Gly Ser Phe Asn Asp Leu Thr Ser Leu Ser His Leu Ala Leu Gly 850 Thr Asn Pro Leu His Cys Asp Cys Ser Leu Arg Trp Leu Ser Glu Trp Val Lys Ala Gly Tyr Lys Glu Pro Gly Ile Ala Arg Cys Ser Ser Pro Glu Pro Met Ala Asp Arg Leu Leu Leu Thr Thr Pro Thr 895 His Arg Phe Gln Cys Lys Gly Pro Val Asp Ile Asn Ile Val Ala Lys Cys Asn Ala Cys Leu Ser Ser Pro Cys Lys Asn Asn Gly Thr Cys Thr Gln Asp Pro Val Glu Leu Tyr Arg Cys Ala Cys Pro Tyr Ser Tyr Lys Gly Lys Asp Cys Thr Val Pro Ile Asn Thr Cys Ile Gln Asn Pro Cys Gln His Gly Gly Thr Cys His Leu Ser Asp Ser His Lys Asp Gly Phe Ser Cys Ser Cys Pro Leu Gly Phe Glu Gly Gln Arg Cys Glu Ile Asn Pro Asp Asp Cys Glu Asp Asn Asp Cys 1005 Glu Asn Asn Ala Thr Cys Val Asp Gly Ile Asn Asn Tyr Val Cys 1015 Ile Cys Pro Pro Asn Tyr Thr Gly Glu Leu Cys Asp Glu Val Ile 1035 1025 Asp His Cys Val Pro Glu Leu Asn Leu Cys Gln His Glu Ala Lys

1040	1045	1050

Cys Ile Pro Leu Asp Lys Gly Phe Ser Cys Glu Cys Val Pro Gly 1055

Tyr Ser Gly Lys Leu Cys Glu Thr Asp Asn Asp Asp Cys Val Ala 1075 1070

His Lys Cys Arg His Gly Ala Gln Cys Val Asp Thr Ile Asn Gly 1090 1085

Tyr Thr Cys Thr Cys Pro Gln Gly Phe Ser Gly Pro Phe Cys Glu 1100 1105

His Pro Pro Pro Met Val Leu Leu Gln Thr Ser Pro Cys Asp Gln 1120 1125 1115

Tyr Glu Cys Gln Asn Gly Ala Gln Cys Ile Val Val Gln Glu 1135

Pro Thr Cys Arg Cys Pro Pro Gly Phe Ala Gly Pro Arg Cys Glu 1155

Lys Leu Ile Thr Val Asn Phe Val Gly Lys Asp Ser Tyr Val Glu 1160

Leu Ala Ser Ala Lys Val Arg Pro Gln Ala Asn Ile Ser Leu Gln 1175 1185

Val Ala Thr Asp Lys Asp Asn Gly Ile Leu Leu Tyr Lys Gly Asp

Asn Asp Pro Leu Ala Leu Glu Leu Tyr Gln Gly His Val Arg Leu 1205

Val Tyr Asp Ser Leu Ser Ser Pro Pro Thr Thr Val Tyr Ser Val 1220

Glu Thr Val Asn Asp Gly Gln Phe His Ser Val Glu Leu Val Thr 1245 1235

Leu Asn Gln Thr Leu Asn Leu Val Val Asp Lys Gly Thr Pro Lys 1250

Ser Leu Gly Lys Leu Gln Lys Gln Pro Ala Val Gly Ile Asn Ser 1275 1265

Pro Leu Tyr Leu Gly Gly Ile Pro Thr Ser Thr Gly Leu Ser Ala 1280

Leu Arg Gln Gly Thr Asp Arg Pro Leu Gly Gly Phe His Gly Cys 1295 1300 1305

Ile His Glu Val Arg Ile Asn Asn Glu Leu Gln Asp Phe Lys Ala 1315 1310

Leu Pro Pro Gln Ser Leu Gly Val Ser Pro Gly Cys Lys Ser Cys 1330 1335 1325

Thr Val Cys Lys His Gly Leu Cys Arg Ser Val Glu Lys Asp Ser Val Val Cys Glu Cys Arg Pro Gly Trp Thr Gly Pro Leu Cys Asp Gln Glu Ala Arg Asp Pro Cys Leu Gly His Arg Cys His His Gly Lys Cys Val Ala Thr Gly Thr Ser Tyr Met Cys Lys Cys Ala Glu 1385 Gly Tyr Gly Gly Asp Leu Cys Asp Asn Lys Asn Asp Ser Ala Asn 1400 Ala Cys Ser Ala Phe Lys Cys His His Gly Gln Cys His Ile Ser 1415 Asp Gln Gly Glu Pro Tyr Cys Leu Cys Gln Pro Gly Phe Ser Gly 1435 1430 Glu His Cys Gln Gln Glu Asn Pro Cys Leu Gly Gln Val Val Arg 1445 Glu Val Ile Arg Arg Gln Lys Gly Tyr Ala Ser Cys Ala Thr Ala 1465 1460 Ser Lys Val Pro Ile Met Glu Cys Arg Gly Gly Cys Gly Pro Gln 1475 Cys Cys Gln Pro Thr Arg Ser Lys Arg Arg Lys Tyr Val Phe Gln 1490 Cys Thr Asp Gly Ser Ser Phe Val Glu Glu Val Glu Arg His Leu 1510 1505 Glu Cys Gly Cys Leu Ala Cys Ser 1520 <210> 199 <211> 24 <212> DNA <213> Artificial

<220>

<221> Artificial Sequence

<222> 1-24

<223> Synthetic construct.

<400> 199

atggagattc ctgccaactt gccg 24

<210> 200

<211> 24

<212> DNA

<213> Artificial

<220>

```
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 200
ttgttggcat tgaggaggag cagc 24
<210> 201
<211> 50
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-50
<223> Synthetic construct.
<400> 201
 gagggcatcg tcgaaatacg cctagaacag aactccatca aagccatccc 50
<210> 202
<211> 753
<212> DNA
<213> Homo sapiens
<400> 202
 ggatgcagga cgctcccctg agctgcctgt caccgactag gtggagcagt 50
 gtttcttccg cagactcaac tgagaagtca gcctctgggg caggcaccag 100
 gaatctgcct tttcagttct gtctccggca ggctttgagg atgaaggctg 150
 cgggcattct gaccctcatt ggctgcctgg tcacaggcgc cgagtccaaa 200
 atctacactc gttgcaaact ggcaaaaata ttctcgaggg ctggcctgga 250
 caattactgg ggcttcagcc ttggaaactg gatctgcatg gcatattatg 300
 agagcggcta caacaccaca gccccgacgg tcctggatga cggcagcatc 350
 gactatggca tcttccagat caacagcttc gcgtggtgca gacgcggaaa 400
 gctgaaggag aacaaccact gccatgtcgc ctgctcagcc ttgatcactg 450
 atgacctcac agatgcaatt atctgtgcca ggaaaattgt taaagagaca 500
 caaggaatga actattggca aggctggaag aaacattgtg agggcagaga 550
 cctgtccgag tggaaaaaag gctgtgaggt ttcctaaact ggaactggac 600
 ccaggatgct ttgcagcaac gccctaggat ttgcagtgaa tgtccaaatg 650
 cctgtgtcat cttgtcccgt ttcctcccaa tattccttct caaacttgga 700
 gagggaaaat taagctatac ttttaagaaa ataaatattt ccatttaaat 750
 gtc 753
```

```
<210> 203
<211> 148
<212> PRT
<213> Homo sapiens
<400> 203
 Met Lys Ala Ala Gly Ile Leu Thr Leu Ile Gly Cys Leu Val Thr
 Gly Ala Glu Ser Lys Ile Tyr Thr Arg Cys Lys Leu Ala Lys Ile
 Phe Ser Arg Ala Gly Leu Asp Asn Tyr Trp Gly Phe Ser Leu Gly
 Asn Trp Ile Cys Met Ala Tyr Tyr Glu Ser Gly Tyr Asn Thr Thr
 Ala Pro Thr Val Leu Asp Asp Gly Ser Ile Asp Tyr Gly Ile Phe
 Gln Ile Asn Ser Phe Ala Trp Cys Arg Arg Gly Lys Leu Lys Glu
Asn Asn His Cys His Val Ala Cys Ser Ala Leu Ile Thr Asp Asp
 Leu Thr Asp Ala Ile Ile Cys Ala Arg Lys Ile Val Lys Glu Thr
                                     115
Gln Gly Met Asn Tyr Trp Gln Gly Trp Lys Lys His Cys Glu Gly
Arg Asp Leu Ser Glu Trp Lys Lys Gly Cys Glu Val Ser
<210> 204
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 204
gcaggctttg aggatgaagg ctgc 24
<210> 205
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
```

```
<400> 205
 ctcattggct gcctggtcac aggc 24
<210> 206
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 206
ccagtcggac aggtctctcc cctc 24
<210> 207
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 207
tcagtgacca aggctgagca ggcg 24
<210> 208
<211> 47
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-47
<223> Synthetic construct.
<400> 208
ctacactcgt tgcaaactgg caaaaatatt ctcgagggct ggcctgg 47
<210> 209
<211> 1648
<212> DNA
<213> Homo sapiens
<400> 209
caggccattt gcatcccact gtccttgtgt tcggagccag gccacaccgt 50
cctcagcagt gtcatgtgtt aaaaacgcca agctgaatat atcatgcccc 100
 tattaaaact tgtacatggc tccccattgg tttttggaga aaagttcaag 150
 ctttttacct tggtgtctgc ctgtatccca gtgttcaggc tggctagacg 200
 gcggaagaag atcctatttt actgtcactt cccagatctg cttctcacca 250
```

agagagattc ttttcttaaa cgactataca gggccccaat tgactggata 300 gaggaataca ccacaggcat ggcagactgc atcttagtca acagccagtt 350 cacagetget gtttttaagg aaacattcaa gteeetgtet cacatagace 400 ctgatgtcct ctatccatct ctaaatgtca ccagctttga ctcagttgtt 450 cctgaaaagc tggatgacct agtccccaag gggaaaaaat tcctgctgct 500 ctccatcaac agatacgaaa ggaagaaaaa tctgactttg gcactggaag 550 ccctagtaca gctgcgtgga agattgacat cccaagattg ggagagggtt 600 catctgatcg tggcaggtgg ttatgacgag agagtcctgg agaatgtgga 650 acattatcag gaattgaaga aaatggtcca acagtccgac cttggccagt 700 atgtgacctt cttgaggtct ttctcagaca aacagaaaat ctccctcctc 750 cacagetgca egtgtgtgct ttacacacca agcaatgage actttggcat 800 tgtccctctg gaagccatgt acatgcagtg cccagtcatt gctgttaatt 850 cgggtggacc cttggagtcc attgaccaca gtgtcacagg gtttctgtgt 900 gagcctgacc cggtgcactt ctcagaagca atagaaaagt tcatccgtga 950 accttcctta aaagccacca tgggcctggc tggaagagcc agagtgaagg 1000 aaaaattttc ccctgaagca tttacagaac agctctaccg atatgttacc 1050 aaactgctgg tataatcaga ttgtttttaa gatctccatt aatgtcattt 1100 ttatggattg tagacccagt tttgaaacca aaaaagaaac ctagaatcta 1150 atgcagaaga gatcttttaa aaaataaact tgagtcttga atgtgagcca 1200 ctttcctata taccacacct ccctgtccac ttttcagaaa aaccatgtct 1250 tttatgctat aatcattcca aattttgcca gtgttaagtt acaaatgtgg 1300 tgtcattcca tgttcagcag agtattttaa ttatattttc tcgggattat 1350 tgctcttctg tctataaatt ttgaatgata ctgtgcctta attggttttc 1400 atagtttaag tgtgtatcat tatcaaagtt gattaatttg gcttcatagt 1450 ataatgagag cagggctatt gtagttccca gattcaatcc accgaagtgt 1500 tcactgtcat ctgttaggga atttttgttt gtcctgtctt tgcctggatc 1550 catagogaga gtgctctgta ttttttttaa gataatttgt atttttgcac 1600 actgagatat aataaaaggt gtttatcata aaaaaaaaa aaaaaaaa 1648

<sup>&</sup>lt;210> 210 <211> 323

<212> PRT <213> Homo sapiens

<400> 210 Met Pro Leu Lys Leu Val His Gly Ser Pro Leu Val Phe Gly Glu Lys Phe Lys Leu Phe Thr Leu Val Ser Ala Cys Ile Pro Val Phe Arg Leu Ala Arg Arg Lys Lys Ile Leu Phe Tyr Cys His Phe Pro Asp Leu Leu Thr Lys Arg Asp Ser Phe Leu Lys Arg Leu Tyr Arg Ala Pro Ile Asp Trp Ile Glu Glu Tyr Thr Thr Gly Met Ala Asp Cys Ile Leu Val Asn Ser Gln Phe Thr Ala Ala Val 85 Phe Lys Glu Thr Phe Lys Ser Leu Ser His Ile Asp Pro Asp Val 100 Leu Tyr Pro Ser Leu Asn Val Thr Ser Phe Asp Ser Val Val Pro 110 115 Glu Lys Leu Asp Asp Leu Val Pro Lys Gly Lys Lys Phe Leu Leu Leu Ser Ile Asn Arg Tyr Glu Arg Lys Lys Asn Leu Thr Leu Ala Leu Glu Ala Leu Val Gln Leu Arg Gly Arg Leu Thr Ser Gln Asp 155 Trp Glu Arg Val His Leu Ile Val Ala Gly Gly Tyr Asp Glu Arg Val Leu Glu Asn Val Glu His Tyr Gln Glu Leu Lys Lys Met Val 185 Gln Gln Ser Asp Leu Gly Gln Tyr Val Thr Phe Leu Arg Ser Phe 200 205 Ser Asp Lys Gln Lys Ile Ser Leu Leu His Ser Cys Thr Cys Val 220 Leu Tyr Thr Pro Ser Asn Glu His Phe Gly Ile Val Pro Leu Glu Ala Met Tyr Met Gln Cys Pro Val Ile Ala Val Asn Ser Gly Gly 245 Pro Leu Glu Ser Ile Asp His Ser Val Thr Gly Phe Leu Cys Glu 265

Pro Asp Pro Val His Phe Ser Glu Ala Ile Glu Lys Phe Ile Arg 285

Glu Pro Ser Leu Lys Ala Thr Met Gly Leu Ala Gly Arg Ala Arg 290

Val Lys Glu Lys Phe Ser Pro Glu Ala Phe Thr Glu Gln Leu Tyr 305

Arg Tyr Val Thr Lys Leu Leu Val 320

<210> 211 <211> 1554 <212> DNA <213> Homo sapiens

<400> 211 gactacgccg atccgagacg tggctccctg ggcggcagaa ccatgttgga 50 cttcgcgatc ttcgccgtta ccttcttgct ggcgttggtg ggagccgtgc 100 tctacctcta tccggcttcc agacaagctg caggaattcc agggattact 150 ccaactgaag aaaaagatgg taatcttcca gatattgtga atagtggaag 200 tttgcatgag ttcctggtta atttgcatga gagatatggg cctgtggtct 250 ccttctggtt tggcaggcgc ctcgtggtta gtttgggcac tgttgatgta 300 ctgaagcagc atatcaatcc caataagaca tcggaccctt ttgaaaccat 350 gctgaagtca ttattaaggt atcaatctgg tggtggcagt gtgagtgaaa 400 accacatgag gaaaaaattg tatgaaaatg gtgtgactga ttctctgaag 450 agtaactttg ccctcctct aaagctttca gaagaattat tagataaatg 500 gctctcctac ccagagaccc agcacgtgcc cctcagccag catatgcttg 550 gttttgctat gaagtctgtt acacagatgg taatgggtag tacatttgaa 600 gatgatcagg aagtcattcg cttccagaag aatcatggca cagtttggtc 650 tgagattgga aaaggctttc tagatgggtc acttgataaa aacatgactc 700 ggaaaaaaca atatgaagat gccctcatgc aactggagtc tgttttaagg 750 aacatcataa aagaacgaaa aggaaggaac ttcagtcaac atattttcat 800 tgactcctta gtacaaggga accttaatga ccaacagatc ctagaagaca 850 gtatgatatt ttctctggcc agttgcataa taactgcaaa attgtgtacc 900 tgggcaatct gttttttaac cacctctgaa gaagttcaaa aaaaattata 950 tgaagagata aaccaagttt ttggaaatgg tcctgttact ccagagaaaa 1000 ttgagcagct cagatattgt cagcatgtgc tttgtgaaac tgttcgaact 1050 gccaaactga ctccagtttc tgcccagctt caagatattg aaggaaaaat 1100 tgaccgattt attattccta gagagaccct cgtcctttat gcccttggtg 1150 tggtacttca ggatcctaat acttggccat ctccacacaa gtttgatcca 1200 gatcggtttg atgatgaatt agtaatgaaa actttttcct cacttggatt 1250 ctcaggcaca caggagtgtc cagagttgag gtttgcatat atggtgacca 1300 cagtacttct tagtgtattg gtgaagagac tgcacctact ttctgtggag 1350 ggacaggtta ttgaaacaaa gtatgaactg gtaacatcat caagggaaga 1400 agcttggatc actgtctcaa agagatatta aaattttata catttaaaat 1450 cattgttaaa ttgattgagg aaaacaacca tttaaaaaaa atctatgttg 1500 aatcctttta taaaccagta tcacttgta atataaacac ctatttgtac 1550 ttaa 1554

<210> 212

<211> 462

<212> PRT

<213> Homo sapiens

<400> 212

Met Leu Asp Phe Ala Ile Phe Ala Val Thr Phe Leu Leu Ala Leu
1 5 10 15

Val Gly Ala Val Leu Tyr Leu Tyr Pro Ala Ser Arg Gln Ala Ala 20 25 30

Gly Ile Pro Gly Ile Thr Pro Thr Glu Glu Lys Asp Gly Asn Leu 35 40 45

Pro Asp Ile Val Asn Ser Gly Ser Leu His Glu Phe Leu Val Asn 50 55 60

Leu His Glu Arg Tyr Gly Pro Val Val Ser Phe Trp Phe Gly Arg  $65 \hspace{1cm} 70 \hspace{1cm} 75$ 

Arg Leu Val Val Ser Leu Gly Thr Val Asp Val Leu Lys Gln His
80 85 90

Ile Asn Pro Asn Lys Thr Ser Asp Pro Phe Glu Thr Met Leu Lys 95 100 105

Ser Leu Leu Arg Tyr Gln Ser Gly Gly Gly Ser Val Ser Glu Asn 110 115 120

His Met Arg Lys Lys Leu Tyr Glu Asn Gly Val Thr Asp Ser Leu 125 130 135

Lys Ser Asn Phe Ala Leu Leu Leu Lys Leu Ser Glu Glu Leu Leu

				140					145					150
Asp	Lys	Trp	Leu	Ser 155	Tyr	Pro	Glu	Thr	Gln 160	His	Val	Pro	Leu	Ser 165
Gln	His	Met	Leu	Gly 170	Phe	Ala	Met	Lys	Ser 175	Val	Thr	Gln	Met	Val 180
Met	Gly	Ser	Thr	Phe 185	Glu	Asp	Asp	Gln	Glu 190	Val	Ile	Arg	Phe	Gln 195
Lys	Asn	His	Gly	Thr 200	Val	Trp	Ser	Glu	Ile 205	Gly	Lys	Gly	Phe	Leu 210
Asp	Gly	Ser	Leu	Asp 215	Lys	Asn	Met	Thr	Arg 220	Lys	Lys	Gln	Tyr	Glu 225
Asp	Ala	Leu	Met	Gln 230	Leu	Glu	Ser	Val	Leu 235	Arg	Asn	Ile	Ile	Lys 240
Glu	Arg	Lys	Gly	Arg 245	Asn	Phe	Ser	Gln	His 250	Ile	Phe	Ile	Asp	Ser 255
Leu	Val	Gln	Gly	Asn 260	Leu	Asn	Asp	Gln	Gln 265	Ile	Leu	Glu	Asp	Ser 270
Met	Ile	Phe	Ser	Leu 275	Ala	Ser	Cys	Ile	Ile 280	Thr	Ala	Lys	Leu	Cys 285
Thr	Trp	Ala	Ile	Cys 290	Phe	Leu	Thr	Thr	Ser 295	Glu	Glu	Val	Gln	Lys 300
Lys	Leu	Tyr	Glu	Glu 305	Ile	Asn	Gln	Val	Phe 310	Gly	Asn	Gly	Pro	Val 315
Thr	Pro	Glu	Lys	Ile 320	Glu	Gln	Leu	Arg	Tyr 325	Cys	Gln	His	Val	Leu 330
Cys	Glu	Thr	Val	Arg 335	Thr	Ala	Lys	Leu	Thr 340	Pro	Val	Ser	Ala	Gln 345
Leu	Gln	Asp	Ile	Glu 350	Gly	Lys	Ile	Asp	Arg 355	Phe	Ile	Ile	Pro	Arg 360
Glu	Thr	Leu	Val	Leu 365	Tyr	Ala	Leu	Gly	Val 370	Val	Leu	Gln	Asp	Pro 375
Asn	Thr	Trp	Pro	Ser 380	Pro	His	Lys	Phe	Asp 385	Pro	Asp	Arg	Phe	Asp 390
Asp	Glu	Leu	Val	Met 395	Lys	Thr	Phe	Ser	Ser 400	Leu	Gly	Phe	Ser	Gly 405
Thr	Gln	Glu	Cys	Pro 410	Glu	Leu	Arg	Phe	Ala 415	Tyr	Met	Val	Thr	Thr 420
Val	Leu	Leu	Ser	Val 425	Leu	Val	Lys	Arg	Leu 430	His	Leu	Leu	Ser	Val 435

Glu Gly Gln Val Ile Glu Thr Lys Tyr Glu Leu Val Thr Ser Ser 440 445 450

<210> 213

<211> 759

<212> DNA

<213> Homo sapiens

<400> 213

ctagatttgt cggcttgcgg ggagacttca ggagtcgctg tctctgaact 50 tccagcctca gagaccgccg cccttgtccc cgagggccat gggccgggtc 100 teagggettg tgeeeteteg etteetgacg etcetggege atetggtggt 150 cgtcatcacc ttattctggt cccgggacag caacatacag gcctgcctgc 200 ctctcacgtt caccccgag gagtatgaca agcaggacat tcagctggtg 250 gccgcgctct ctgtcaccct gggcctcttt gcagtggagc tggccggttt 300 cctctcagga gtctccatgt tcaacagcac ccagagcctc atctccattg 350 gggctcactg tagtgcatcc gtggccctgt ccttcttcat attcgagcgt 400 tqqqaqtqca ctacqtattq qtacattttt qtcttctqca qtqcccttcc 450 agctgtcact gaaatggctt tattcgtcac cgtctttggg ctgaaaaaga 500 aaccettetg attacettea tgaegggaac etaaggaega ageetacagg 550 qqcaaqqqcc qcttcqtatt cctqqaaqaa qqaaqqcata qqcttcqqtt 600 ttcccctcgg aaactgcttc tgctggagga tatgtgttgg aataattacg 650 tcttgagtct gggattatcc gcattgtatt tagtgctttg taataaaata 700 tgttttgtag taacattaag acttatatac agttttaggg gacaattaaa 750 aaaaaaaaa 759

<210> 214

<211> 140

<212> PRT

<213> Homo sapiens

<400> 214

Met Gly Arg Val Ser Gly Leu Val Pro Ser Arg Phe Leu Thr Leu 1 5 10 15

Leu Ala His Leu Val Val Val Ile Thr Leu Phe Trp Ser Arg Asp 20 25 30

Ser Asn Ile Gln Ala Cys Leu Pro Leu Thr Phe Thr Pro Glu Glu 35 40 45

```
Tyr Asp Lys Gln Asp Ile Gln Leu Val Ala Ala Leu Ser Val Thr 60

Leu Gly Leu Phe Ala Val Glu Leu Ala Gly Phe Leu Ser Gly Val 75

Ser Met Phe Asn Ser Thr Gln Ser Leu Ile Ser Ile Gly Ala His 80

Cys Ser Ala Ser Val Ala Leu Ser Phe Phe Ile Phe Glu Arg Trp 105

Glu Cys Thr Thr Tyr Trp Tyr Ile Phe Val Phe Cys Ser Ala Leu 120

Pro Ala Val Thr Glu Met Ala Leu Phe Val Thr Val Phe Gly Leu
```

130

Lys Lys Lys Pro Phe

<210> 215 <211> 697 <212> DNA <213> Homo sapiens

<400> 215

teceggacee tgeegeetg ceactatgte eggegetet atgetgettg 50 cetgggetet ecceageete ettegacteg gageggetea ggagacagaa 100 gaceegget getgeageee catagtgeee eggaacgagt ggaaggeete 150 ggeateagag tgegeeeage acetgageet geeettaege tatgtggtgg 200 tategeacae ggegggeage agetgeaaca ecceegeete gtgeeageag 250 caggeeegga atgtgeagea etaecacatg aagacaetgg getggtgega 300 egtgggetae aactteetga ttggagaaga egggetegta taegagggee 350 gtggetggaa etteaegggt geeeacteag gteaettatg gaaceecatg 400 teeattggea teagetteat gggeaactae atggategg tgeeeacace 450 ecaggeeate egggeageee agggtetaet ggeetgeggt gtggeteagg 500 gageeetgag gteeaactat gtgeteaaag gacaeeggga tgtgeageg 550 acaeteetee eeetgaggee etgetgatee geaeeceatt eeteeetee 650 eatggeeaaa aaceecactg teteettete eaataaagat gtagete 697

<210> 216

<211> 196

<212> PRT

## <213> Homo sapiens

<400>	> 216 Ser	) Ara	Ara	Ser	Met	Len	Leu	Ala	Trp	Ala	Leu	Pro	Ser	Leu
1	DCI	rirg	1119	5	1100	Lou	200		10					15
Leu	Arg	Leu	Gly	Ala 20	Ala	Gln	Glu	Thr	Glu 25	Asp	Pro	Ala	Cys	Cys 30
Ser	Pro	Ile	Val	Pro 35	Arg	Asn	Glu	Trp	Lys 40	Ala	Leu	Ala	Ser	Glu 45
Cys	Ala	Gln	His	Leu 50	Ser	Leu	Pro	Leu	Arg 55	Tyr	Val	Val	Val	Ser 60
His	Thr	Ala	Gly	Ser 65	Ser	Cys	Asn	Thr	Pro 70	Ala	Ser	Cys	Gln	Gln 75
Gln	Ala	Arg	Asn	Val 80	Gln	His	Tyr	His	Met 85	Lys	Thr	Leu	Gly	Trp 90
Cys	Asp	Val	Gly	Tyr 95	Asn	Phe	Leu	Ile	Gly 100	Glu	Asp	Gly	Leu	Val 105
Tyr	Glu	Gly	Arg	Gly 110	Trp	Asn	Phe	Thr	Gly 115	Ala	His	Ser	Gly	His 120
Leu	Trp	Asn	Pro	Met 125	Ser	Ile	Gly	Ile	Ser 130	Phe	Met	Gly	Asn	Tyr 135
Met	Asp	Arg	Val	Pro 140	Thr	Pro	Gln	Ala	Ile 145	Arg	Ala	Ala	Gln	Gly 150
Leu	Leu	Ala	Cys	Gly 155	Val	Ala	Gln	Gly	Ala 160	Leu	Arg	Ser	Asn	Tyr 165
Val	Leu	Lys	Gly	His 170	Arg	Asp	Val	Gln	Arg 175	Thr	Leu	Ser	Pro	Gly 180
Asn	Gln	Leu	Tyr	His 185	Leu	Ile	Gln	Asn	Trp 190	Pro	His	Tyr	Arg	Ser 195

Pro

<210> 217

<211> 1871

<212> DNA

<213> Homo sapiens

<400> 217

ctgggaccc gaaagagaa ggggagagc aggggacgag agcggaggag 50 gaagatgcaa ctgactcgct gctgcttcgt gttcctggtg cagggtagcc 100 tctatctggt catctgtggc caggatgatg gtcctcccgg ctcagaggac 150 cctgagcgtg atgaccacga gggccagccc cggccccggg tgcctcggaa 200 geggggeeac ateteaceta agtecegeec catggeeaat tecaetetee 250 tagggctgct ggccccgcct ggggaggctt ggggcattct tgggcagccc 300 cccaaccgcc cgaaccacag cccccaccc tcagccaagg tgaagaaaat 350 ctttggctgg ggcgacttct actccaacat caagacggtg gccctgaacc 400 tgctcgtcac agggaagatt gtggaccatg gcaatgggac cttcagcgtc 450 cacttccaac acaatgccac aggccaggga aacatctcca tcagcctcgt 500 gcccccagt aaagctgtag agttccacca ggaacagcag atcttcatcg 550 aagccaaggc ctccaaaatc ttcaactgcc ggatggagtg ggagaaggta 600 gaacggggcc gccggacctc gctttgcacc cacgacccag ccaagatctg 650 ctcccgagac cacgctcaga gctcagccac ctggagctgc tcccagccct 700 tcaaagtcgt ctgtgtctac atcgccttct acagcacgga ctatcggctg 750 gtccagaagg tgtgcccaga ttacaactac catagtgata ccccctacta 800 ggacaggect geceatgeag gagaceatet ggacaeeggg cagggaaggg 900 gttgggcctc aggcaggag gggggtggag acgaggagat gccaagtggg 950 gccagggcca agtctcaagt ggcagagaaa gggtcccaag tgctggtccc 1000 aacctgaagc tgtggagtga ctagatcaca ggagcactgg aggaggagtg 1050 ggctctctgt gcagcctcac agggctttgc cacggagcca cagagagatg 1100 ctgggtcccc gaggcctgtg ggcaggccga tcagtgtggc cccagatcaa 1150 gtcatgggag gaagctaagc ccttggttct tgccatcctg aggaaagata 1200 gcaacaggga gggggagatt tcatcagtgt ggacagcctg tcaacttagg 1250 gccagaggag ctctccagcc ctgcctagtg ggcgccctga gccccttgtc 1350 gtgtgctgag catggcatga ggctgaagtg gcaaccctgg ggtctttgat 1400 gtcttgacag attgaccatc tgtctccagc caggccaccc ctttccaaaa 1450 ttccctcttc tgccagtact ccccctgtac cacccattgc tgatggcaca 1500 cccatcctta agctaagaca ggacgattgt ggtcctccca cactaaggcc 1550 acageceate egegtgetgt gtgteeetet tecaececaa eeeetgetgg 1600 ctcctctggg agcatccatg tcccggagag gggtccctca acagtcagcc 1650 tcacctgtca gaccgggtt ctcccggatc tggatggcgc cgccctctca 1700 gcagcgggca cgggtggggc ggggccgggc cgcagagcat gtgctggatc 1750 tgttctgtt gtctgtctgt gggtggggg aggggaggga agtcttgtga 1800 aaccgctgat tgctgacttt tgtgtgaaga atcgtgttct tggagcagga 1850 aataaagctt gccccggggc a 1871

<210> 218

<211> 252

<212> PRT

<213> Homo sapiens

<400> 218

Met Gln Leu Thr Arg Cys Cys Phe Val Phe Leu Val Gln Gly Ser 1 5 10 15

Leu Tyr Leu Val Ile Cys Gly Gln Asp Asp Gly Pro Pro Gly Ser 20 25 30

Glu Asp Pro Glu Arg Asp Asp His Glu Gly Gln Pro Arg Pro Arg
35 40 45

Val Pro Arg Lys Arg Gly His Ile Ser Pro Lys Ser Arg Pro Met
50 55 60

Ala Asn Ser Thr Leu Leu Gly Leu Leu Ala Pro Pro Gly Glu Ala 65 70 75

Trp Gly Ile Leu Gly Gln Pro Pro Asn Arg Pro Asn His Ser Pro 80 85 90

Pro Pro Ser Ala Lys Val Lys Lys Ile Phe Gly Trp Gly Asp Phe 95 100 105

Tyr Ser Asn Ile Lys Thr Val Ala Leu Asn Leu Leu Val Thr Gly
110 115 120

Lys Ile Val Asp His Gly Asn Gly Thr Phe Ser Val His Phe Gln
125 130 135

His Asn Ala Thr Gly Gln Gly Asn Ile Ser Ile Ser Leu Val Pro 140 145 150

Pro Ser Lys Ala Val Glu Phe His Gln Glu Gln Gln Ile Phe Ile 155 160 165

Glu Ala Lys Ala Ser Lys Ile Phe Asn Cys Arg Met Glu Trp Glu 170 175 180

Lys Val Glu Arg Gly Arg Arg Thr Ser Leu Cys Thr His Asp Pro 185 190 195

Ala Lys Ile Cys Ser Arg Asp His Ala Gln Ser Ser Ala Thr Trp 200 205 210

Ser Cys Ser Gln Pro Phe Lys Val Val Cys Val Tyr Ile Ala Phe 215 220 225

Tyr Ser Thr Asp Tyr Arg Leu Val Gln Lys Val Cys Pro Asp Tyr 230 235 240

Asn Tyr His Ser Asp Thr Pro Tyr Tyr Pro Ser Gly 245 250

<210> 219

<211> 2065

<212> DNA

<213> Homo sapiens

<400> 219

gtgaatgtga gggtttgatg actttcagat gtctaggaac cagagtgggt 50 gcaggggccc caggcagggc tgattcttgg gcggaggaga gtagggtaaa 100 gggttctgca tgagctcctt aaaggacaaa ggtaacagag ccagcgagag 150 agetegaggg gagaetttga etteaageea eagaattggt ggaagtgtge 200 gcgccgccgc cgccgtcgct cctgcagcgc tgtcgaccta gccgctagca 250 tetteecqaq caccqqqate ceqqqqtaqq aqqcqacqcq qqcqaqcace 300 agegeeagee ggetgegget geceacaegg etcaccatgg geteegggeg 350 ccgggcgctg tccgcggtgc cggccgtgct gctggtcctc acgctgccgg 400 ggetgeeegt etgggeaeag aacgaeaegg ageeeategt getggaggge 450 aagtgtctgg tggtgtgcga ctcgaacccg gccacggact ccaagggctc 500 ctettectee cegetgggga tateggteeg ggeggeeaac tecaaggteg 550 ccttctcggc ggtgcggagc accaaccacg agccatccga gatgagcaac 600 aagacgcgca tcatttactt cgatcagatc ctggtgaatg tgggtaattt 650 tttcacattg gagtctgtct ttgtagcacc aagaaaagga atttacagtt 700 tcagttttca cgtgattaaa gtctaccaga gccaaactat ccaggttaac 750 ttgatqttaa atggaaaacc agtaatatct gcctttgcgg gggacaaaga 800 tgttactcgt gaagetgcca cgaatggtgt cetgctctac ctagataaag 850 aggataaggt ttacctaaaa ctqqaqaaag qtaatttqqt tqqaqqctqq 900 cagtattcca cgttttctgg ctttctggtg ttccccctat aggattcaat 950 ttctccatga tgttcatcca ggtgagggat gacccactcc tgagttattg 1000 gaagatcatt ttttcatcat tggattgatg tcttttattg gtttctcatg 1050 ggtggatatg gattctaagg attctagcct gtctgaacca atacaaaatt 1100

tcacagatta tttgtgtgtg tctgtttcag tatatttgga ttgggactct 1150 aagcagataa tacctatgct taaatgtaac agtcaaaagc tgtctgcaag 1200 acttattctg aatttcattt cctgggatta ctgaattagt tacagatgtg 1250 gaattttatt tgtttagttt taaaagactg gcaaccaggt ctaaggatta 1300 gaaaactcta aagttctgac ttcaatcaac ggttagtgtg atactgccaa 1350 agaactgtat actgtgttaa tatattgatt atatttgttt ttattccttt 1400 ggaattagtt tgtttggttc ttgtaaaaaa cttggatttt ttttttcagt 1450 aactggtatt atgttttctc ttaaaataag gtaatgaatg gcttgcccac 1500 aaatttacct tgactacgat atcatcgaca tgacttctct caaaaaaaaa 1550 gaatgcttca tagttgtatt ttaattgtat atgtgaaaga gtcatatttt 1600 ccaagttata ttttctaaga agaagaatag atcataaatc tgacaaggaa 1650 aaagttgctt acccaaaatc taagtgctca atccctgagc ctcagcaaaa 1700 cageteceet eegagggaaa tettataett tattgeteaa etttaattaa 1750 aatgattgat aataaccact ttattaaaaa cctaaggttt ttttttttc 1800 cqtagacatq accactttat taactggtgg tgggatgctg ttgtttctaa 1850 ttatacctat ttttcaaggc ttctgttgta tttgaagtat catctggttt 1900 tgccttaact ctttaaattg tatatattta tctgtttagc taatattaaa 1950 ttcaaatatc ccatatctaa atttagtgca atatcttgtc ttttgtatag 2000 gtcatatgaa ttcataaaat tatttatgtc tgttatagaa taaagattaa 2050 tatatgttaa aaaaa 2065

<210> 220

<211> 201

<212> PRT

<213> Homo sapiens

<400> 220

Met Gly Ser Gly Arg Arg Ala Leu Ser Ala Val Pro Ala Val Leu
1 5 10 15

Leu Val Leu Thr Leu Pro Gly Leu Pro Val Trp Ala Gln Asn Asp
20 25 30

Thr Glu Pro Ile Val Leu Glu Gly Lys Cys Leu Val Val Cys Asp

Ser Asn Pro Ala Thr Asp Ser Lys Gly Ser Ser Ser Pro Leu
50 55 60

```
Gly Ile Ser Val Arg Ala Ala Asn Ser Lys Val Ala Phe Ser Ala
Val Arg Ser Thr Asn His Glu Pro Ser Glu Met Ser Asn Lys Thr
Arg Ile Ile Tyr Phe Asp Gln Ile Leu Val Asn Val Gly Asn Phe
Phe Thr Leu Glu Ser Val Phe Val Ala Pro Arg Lys Gly Ile Tyr
                 110
Ser Phe Ser Phe His Val Ile Lys Val Tyr Gln Ser Gln Thr Ile
                 125
Gln Val Asn Leu Met Leu Asn Gly Lys Pro Val Ile Ser Ala Phe
                 140
Ala Gly Asp Lys Asp Val Thr Arg Glu Ala Ala Thr Asn Gly Val
                 155
Leu Leu Tyr Leu Asp Lys Glu Asp Lys Val Tyr Leu Lys Leu Glu
                                     175
                 170
Lys Gly Asn Leu Val Gly Gly Trp Gln Tyr Ser Thr Phe Ser Gly
                 185
Phe Leu Val Phe Pro Leu
                 200
<210> 221
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-20
<223> Synthetic construct.
<400> 221
acggctcacc atgggctccg 20
<210> 222
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 222
aggaagagga gcccttggag tccg 24
<210> 223
<211> 40
```

<212> PRT

```
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-40
<223> Synthetic construct.
<400> 223
cgtgctggag ggcaagtgtc tggtggtgtg cgactcgaac 40
<210> 224
<211> 902
<212> DNA
<213> Homo sapiens
<400> 224
 cggtggccat gactgcggcc gtgttcttcg gctgcgcctt cattgccttc 50
 gggcctgcgc tcgcccttta tgtcttcacc atcgccatcg agccgttgcg 100
 tatcatcttc ctcatcgccg gagctttctt ctggttggtg tctctactga 150
 tttcgtccct tgtttggttc atggcaagag tcattattga caacaaagat 200
 ggaccaacac agaaatatct gctgatcttt ggagcgtttg tctctgtcta 250
 tatccaagaa atgttccgat ttgcatatta taaactctta aaaaaagcca 300
 gtgaaggttt gaagagtata aacccaggtg agacagcacc ctctatgcga 350
 ctgctggcct atgtttctgg cttgggcttt ggaatcatga gtggagtatt 400
 ttcctttgtg aataccctat ctgactcctt ggggccaggc acagtgggca 450
 ttcatggaga ttctcctcaa ttcttccttt attcagcttt catgacgctg 500
 gtcattatct tgctgcatgt attctggggc attgtatttt ttgatggctg 550
 tgagaagaaa aagtggggca tcctccttat cgttctcctg acccacctgc 600
 tggtgtcagc ccagaccttc ataagttctt attatggaat aaacctggcg 650
 tcagcattta taatcctggt gctcatgggc acctgggcat tcttagctgc 700
actttettet ttacaaccag cgctccagat aacctcaggg aaccagcact 800
tcccaaaccg cagactacat ctttagagga agcacaactg tgccttttc 850
tgaaaatccc tttttctggt ggaattgaga aagaaataaa actatgcaga 900
ta 902
<210> 225
<211> 257
```

## <213> Homo sapiens

<400> 225

Met Thr Ala Ala Val Phe Phe Gly Cys Ala Phe Ile Ala Phe Gly
1 5 10 15

Pro Ala Leu Ala Leu Tyr Val Phe Thr Ile Ala Ile Glu Pro Leu 20 25 30

Arg Ile Ile Phe Leu Ile Ala Gly Ala Phe Phe Trp Leu Val Ser
35 40 45

Leu Leu Ile Ser Ser Leu Val Trp Phe Met Ala Arg Val Ile Ile
50 55 60

Asp Asn Lys Asp Gly Pro Thr Gln Lys Tyr Leu Leu Ile Phe Gly
65 70 75

Ala Phe Val Ser Val Tyr Ile Gln Glu Met Phe Arg Phe Ala Tyr 80 85 90

Tyr Lys Leu Leu Lys Lys Ala Ser Glu Gly Leu Lys Ser Ile Asn 95 100 105

Pro Gly Glu Thr Ala Pro Ser Met Arg Leu Leu Ala Tyr Val Ser 110 115 120

Gly Leu Gly Phe Gly Ile Met Ser Gly Val Phe Ser Phe Val Asn 125 130 135

Thr Leu Ser Asp Ser Leu Gly Pro Gly Thr Val Gly Ile His Gly 140 145 150

Asp Ser Pro Gln Phe Phe Leu Tyr Ser Ala Phe Met Thr Leu Val 155 160 165

Ile Ile Leu Leu His Val Phe Trp Gly Ile Val Phe Phe Asp Gly 170 175 180

Cys Glu Lys Lys Trp Gly Ile Leu Leu Ile Val Leu Leu Thr 185 190 195

His Leu Leu Val Ser Ala Gln Thr Phe Ile Ser Ser Tyr Tyr Gly 200 205 210

Ile Asn Leu Ala Ser Ala Phe Ile Ile Leu Val Leu Met Gly Thr 215 220 225

Trp Ala Phe Leu Ala Ala Gly Gly Ser Cys Arg Ser Leu Lys Leu 230 235 240

Cys Leu Leu Cys Gln Asp Lys Asn Phe Leu Leu Tyr Asn Gln Arg 245 250 255

Ser Arg

<210> 226

<211> 3939 <212> DNA

<213> Homo sapiens

<400> 226 cggcaaccag ccgccgccac caccgctgcc actgccgccc tgccggggcc 50 atgttcgctc tgggcttgcc cttcttggtg ctcttggtgg cctcggtcga 100 gagccatctg ggggttctgg ggcccaagaa cgtctcgcag aaagacgccg 150 agtttgagcg cacctacgtg gacgaggtca acagcgagct ggtcaacatc 200 tacaccttca accatactgt gacccgcaac aggacagagg gcgtgcgtgt 250 gtctgtgaac gtcctgaaca agcagaaggg ggcgccgttg ctgtttgtgg 300 tccgccagaa ggaggctgtg gtgtccttcc aggtgcccct aatcctgcga 350 gggatgtttc agcgcaagta cctctaccaa aaagtggaac gaaccctgtg 400 tcagcccccc accaagaatg agtcggagat tcagttcttc tacgtggatg 450 tgtccaccct gtcaccagtc aacaccacat accagctccg ggtcagccgc 500 atggacgatt ttgtgctcag gactggggag cagttcagct tcaataccac 550 agcagcacag ccccagtact tcaagtatga gttccctgaa ggcgtggact 600 cggtaattgt caaggtgacc tccaacaagg ccttcccctg ctcagtcatc 650 tccattcagg atgtgctgtg tcctgtctat gacctggaca acaacgtagc 700 cttcatcggc atgtaccaga cgatgaccaa gaaggcggcc atcaccgtac 750 agegeaaaga etteeceage aacagetttt atgtggtggt ggtggtgaag 800 accgaagace aagcetgegg gggeteeetg cetttetace cettegeaga 850 agatgaaccg gtcgatcaag ggcaccgcca gaaaaccctg tcagtgctgg 900 tgtctcaagc agtcacgtct gaggcatacg tcagtgggat gctcttttgc 950 ctgggtatat ttctctcctt ttacctgctg accgtcctcc tggcctgctg 1000 ggagaactgg aggcagaaga agaagaccct gctggtggcc attgaccgag 1050 cctgcccaga aagcggtcac cctcgagtcc tggctgattc ttttcctggc 1100 agttcccctt atgagggtta caactatggc tcctttgaga atgtttctgg 1150 atctaccgat ggtctggttg acagcgctgg cactggggac ctctcttacg 1200 gttaccaggg ccgctccttt gaacctgtag gtactcggcc ccgagtggac 1250 tccatgagct ctgtggagga ggatgactac gacacattga ccgacatcga 1300 ttccgacaag aatgtcattc gcaccaagca atacctctat gtggctgacc 1350

tggcacggaa ggacaagcgt gttctgcgga aaaagtacca gatctacttc 1400 tggaacattg ccaccattgc tgtcttctat gcccttcctg tggtgcagct 1450 ggtgatcacc taccagacgg tggtgaatgt cacagggaat caggacatct 1500 gctactacaa cttcctctgc gcccacccac tgggcaatct cagcgccttc 1550 aacaacatcc tcagcaacct ggggtacatc ctgctggggc tgcttttcct 1600 gctcatcatc ctgcaacggg agatcaacca caaccgggcc ctgctgcgca 1650 atgacctctg tgccctggaa tgtgggatcc ccaaacactt tgggcttttc 1700 tacgccatgg gcacagccct gatgatggag gggctgctca gtgcttgcta 1750 tcatgtgtgc cccaactata ccaatttcca gtttgacaca tcgttcatgt 1800 acatgatege eggactetge atgetgaage tetaceagaa geggeaeeeg 1850 gacatcaacg ccagcgccta cagtgcctac gcctgcctgg ccattgtcat 1900 cttcttctct gtgctgggcg tggtctttgg caaagggaac acggcgttct 1950 ggatcgtctt ctccatcatt cacatcatcg ccaccctgct cctcagcacg 2000 cagctctatt acatgggccg gtggaaactg gactcgggga tcttccgccg 2050 catectecae gtgetetaea eagactgeat eeggeagtge agegggeege 2100 tctacgtgga ccgcatggtg ctgctggtca tgggcaacgt catcaactgg 2150 tcgctggctg cctatgggct tatcatgcgc cccaatgatt tcgcttccta 2200 cttgttggcc attggcatct gcaacctgct cctttacttc gccttctaca 2250 tcatcatgaa gctccggagt ggggagagga tcaagctcat ccccctgctc 2300 tgcatcgttt gcacctccgt ggtctggggc ttcgcgctct tcttcttctt 2350 ccagggactc agcacctggc agaaaacccc tgcagagtcg agggagcaca 2400 accgggactg catcctcctc gacttctttg acgaccacga catctggcac 2450 ttcctctcct ccatcgccat gttcgggtcc ttcctggtgt tgctgacact 2500 ggatgacgac ctggatactg tgcagcggga caagatctat gtcttctagc 2550 aggagetggg cccttcgctt cacctcaagg ggccctgage tcctttgtgt 2600 catagaccgg tcactctgtc gtgctgtggg gatgagtccc agcaccgctg 2650 cccagcactg gatggcagca ggacagccag gtctagctta ggcttggcct 2700 gggacagcca tggggtggca tggaaccttg cagctgccct ctgccgagga 2750 gcaggcctgc tcccctggaa cccccagatg ttggccaaat tgctgctttc 2800

ttctcagtgt tggggccttc catgggcccc tgtcctttgg ctctccattt 2850 gtccctttgc aagaggaagg atggaaggga caccctcccc atttcatgcc 2900 ttgcattttg cccgtcctcc tccccacaat gccccagcct gggacctaag 2950 gcctcttttt cctcccatac tcccactcca gggcctagtc tggggcctga 3000 atctctgtcc tgtatcaggg ccccagttct ctttgggctg tccctggctg 3050 ccatcactgc ccattccagt cagccaggat ggatgggggt atgagatttt 3100 gggggttggc cagctggtgc cagacttttg gtgctaaggc ctgcaagggg 3150 cctggggcag tgcgtattct cttccctctg acctgtgctc agggctggct 3200 ctttagcaat gcgctcagcc caatttgaga accgccttct gattcaagag 3250 gctgaattca gaggtcacct cttcatccca tcagctccca gactgatgcc 3300 agcaccagga ctggagggag aagcgcctca cccttccct tccttcttc 3350 caggccctta gtcttgccaa accccagctg gtggcctttc agtgccattg 3400 acactgccca agaatgtcca ggggcaaagg agggatgata cagagttcag 3450 cccgttctgc ctccacaget gtgggcaccc cagtgcctac cttagaaagg 3500 ggetteagga agggatgtge tgttteeete tacqtgeeca gteetageet 3550 cgctctagga cccagggctg gcttctaagt ttccgtccag tcttcaggca 3600 agttctgtgt tagtcatgca cacacatacc tatqaaacct tggagtttac 3650 aaagaattgc cccagctctg ggcaccctgg ccaccctggt ccttggatcc 3700 ccttcgtccc acctggtcca ccccagatgc tgaggatggg ggagctcagg 3750 cggggcctct gctttgggga tgggaatgtg tttttctccc aaacttgttt 3800 ttatagctct gcttgaaggg ctgggagatg aggtgggtct ggatcttttc 3850 tcagagcgtc tccatgctat ggttgcattt ccgttttcta tgaatgaatt 3900 tgcattcaat aaacaaccag actcaaaaaa aaaaaaaaa 3939

```
<210> 227
```

<sup>&</sup>lt;211> 832

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 227

Met Phe Ala Leu Gly Leu Pro Phe Leu Val Leu Leu Val Ala Ser 1 5 10 15

Val Glu Ser His Leu Gly Val Leu Gly Pro Lys Asn Val Ser Gln 20 25 30

Lys Asp Ala Glu Phe Glu Arg Thr Tyr Val Asp Glu Val Asn Ser Glu Leu Val Asn Ile Tyr Thr Phe Asn His Thr Val Thr Arg Asn Arg Thr Glu Gly Val Arg Val Ser Val Asn Val Leu Asn Lys Gln Lys Gly Ala Pro Leu Leu Phe Val Val Arg Gln Lys Glu Ala Val Val Ser Phe Gln Val Pro Leu Ile Leu Arg Gly Met Phe Gln Arg Lys Tyr Leu Tyr Gln Lys Val Glu Arg Thr Leu Cys Gln Pro Pro 115 Thr Lys Asn Glu Ser Glu Ile Gln Phe Phe Tyr Val Asp Val Ser Thr Leu Ser Pro Val Asn Thr Thr Tyr Gln Leu Arg Val Ser Arg Met Asp Asp Phe Val Leu Arg Thr Gly Glu Gln Phe Ser Phe Asn Thr Thr Ala Ala Gln Pro Gln Tyr Phe Lys Tyr Glu Phe Pro Glu Gly Val Asp Ser Val Ile Val Lys Val Thr Ser Asn Lys Ala Phe 190 Pro Cys Ser Val Ile Ser Ile Gln Asp Val Leu Cys Pro Val Tyr Asp Leu Asp Asn Asn Val Ala Phe Ile Gly Met Tyr Gln Thr Met Thr Lys Lys Ala Ala Ile Thr Val Gln Arg Lys Asp Phe Pro Ser Asn Ser Phe Tyr Val Val Val Val Lys Thr Glu Asp Gln Ala Cys Gly Gly Ser Leu Pro Phe Tyr Pro Phe Ala Glu Asp Glu Pro Val Asp Gln Gly His Arg Gln Lys Thr Leu Ser Val Leu Val Ser 285 Gln Ala Val Thr Ser Glu Ala Tyr Val Ser Gly Met Leu Phe Cys Leu Gly Ile Phe Leu Ser Phe Tyr Leu Leu Thr Val Leu Leu Ala 305 310 315 Cys Trp Glu Asn Trp Arg Gln Lys Lys Lys Thr Leu Leu Val Ala

				320	)				325	5				330
Ile	e Asr	Arg	g Ala	Cys 335	Pro	Glu	ı Sei	Gly	7 His 340		Arg	[Va]	L Lei	1 Ala 345
Asp	Ser	: Phe	Pro	Gly 350	Ser	Ser	Pro	Туг	Glu 355	Gly	Tyr	: Asn	туг	Gly 360
Ser	Phe	e Glu	Asn	Val 365	Ser	Gly	ser Ser	Thr	Asp 370	Gly	Leu	Val	. Asp	Ser 375
Ala	Gly	Thr	Gly	Asp 380	Leu	Ser	Tyr	: Gly	7 Tyr 385	Gln	Gly	Arg	Ser	Phe 390
Glu	Pro	Val	Gly	Thr 395	Arg	Pro	Arg	val	. Asp 400	Ser	Met	Ser	Ser	Val 405
Glu	Glu	Asp	Asp	Tyr 410	Asp	Thr	Leu	Thr	Asp 415	Ile	Asp	Ser	Asp	Lys 420
Asn	Val	Ile	Arg	Thr 425	Lys	Gln	Tyr	Leu	Tyr 430	Val	Ala	Asp	Leu	Ala 435
Arg	Lys	Asp	Lys	Arg 440	Val	Leu	Arg	Lys	Lys 445	Tyr	Gln	Ile	Tyr	Phe 450
Trp	Asn	Ile	Ala	Thr 455	Ile	Ala	Val	Phe	Tyr 460	Ala	Leu	Pro	Val	Val 465
Gln	Leu	Val	Ile	Thr 470	Tyr	Gln	Thr	Val	Val 475	Asn	Val	Thr	Gly	Asn 480
Gln	Asp	Ile	Суз	Tyr 485	Tyr	Asn	Phe	Leu	Cys 490	Ala	His	Pro	Leu	Gly 495
Asn	Leu	Ser	Ala	Phe 500	Asn	Asn	Ile	Leu	Ser 505	Asn	Leu	Gly	Tyr	Ile 510
Leu	Leu	Gly	Leu	Leu 515	Phe	Leu	Leu	Ile	Ile 520	Leu	Gln	Arg	Glu	Ile 525
Asn	His	Asn	Arg	Ala 530	Leu	Leu	Arg	Asn	Asp 535	Leu	Cys	Ala	Leu	Glu 540
Cys	Gly	Ile	Pro	Lys 545	His	Phe	Gly	Leu	Phe 550	Tyr	Ala	Met	Gly	Thr 555
Ala	Leu	Met	Met	Glu 560	Gly	Leu	Leu	Ser	Ala 565	Cys	Tyr	His	Val	Cys 570
Pro	Asn	Tyr	Thr	Asn 575	Phe	Gln	Phe	Asp	Thr 580	Ser	Phe	Met	Tyr	Met 585
Ile	Ala	Gly	Leu	Cys 590	Met	Leu	Lys	Leu	Tyr 595	Gln	Lys	Arg	His	Pro 600
Asp	Ile	Asn	Ala	Ser 605	Ala	Tyr	Ser	Ala	Tyr 610	Ala	Cys	Leu	Ala	Ile 615

```
Val Ile Phe Phe Ser Val Leu Gly Val Val Phe Gly Lys Gly Asn
Thr Ala Phe Trp Ile Val Phe Ser Ile Ile His Ile Ile Ala Thr
                 635
Leu Leu Leu Ser Thr Gln Leu Tyr Tyr Met Gly Arg Trp Lys Leu
                                                         660
Asp Ser Gly Ile Phe Arg Arg Ile Leu His Val Leu Tyr Thr Asp
                                     670
Cys Ile Arg Gln Cys Ser Gly Pro Leu Tyr Val Asp Arg Met Val
                                                         690
Leu Leu Val Met Gly Asn Val Ile Asn Trp Ser Leu Ala Ala Tyr
                                     700
Gly Leu Ile Met Arg Pro Asn Asp Phe Ala Ser Tyr Leu Leu Ala
                710
Ile Gly Ile Cys Asn Leu Leu Tyr Phe Ala Phe Tyr Ile Ile
Met Lys Leu Arg Ser Gly Glu Arg Ile Lys Leu Ile Pro Leu Leu
Cys Ile Val Cys Thr Ser Val Val Trp Gly Phe Ala Leu Phe Phe
Phe Phe Gln Gly Leu Ser Thr Trp Gln Lys Thr Pro Ala Glu Ser
Arg Glu His Asn Arg Asp Cys Ile Leu Leu Asp Phe Phe Asp Asp
                                    790
His Asp Ile Trp His Phe Leu Ser Ser Ile Ala Met Phe Gly Ser
                800
                                    805
Phe Leu Val Leu Leu Thr Leu Asp Asp Leu Asp Thr Val Gln
                                    820
Arg Asp Lys Ile Tyr Val Phe
```

<210> 228

<211> 2848

<212> DNA

<213> Homo sapiens

830

## <400> 228

getcaagtge cetgeettge eccaeceage ceageetgge cagageecee 50
tggagaagga getetette tgettggeag etggaceaag ggageeagte 100
ttgggegetg gagggeetgt cetgaceatg gteeetgeet ggetgtgget 150
getttgtgte teegteecee aggetetee eaaggeecag ectgeagage 200

tgtctgtgga agttccagaa aactatggtg gaaatttccc tttatacctg 250 accaagttgc cgctgccccg tgagggggct gaaggccaga tcgtgctgtc 300 aggggactca ggcaaggcaa ctgagggccc atttgctatg gatccagatt 350 ctggcttcct gctggtgacc agggccctgg accgagagga gcaggcagag 400 taccagctac aggtcaccct ggagatgcag gatggacatg tcttgtgggg 450 tccacagcct gtgcttgtgc acgtgaagga tgagaatgac caggtgcccc 500 atttctctca agccatctac agagctcggc tgagccgggg taccaggcct 550 ggcatcccct tcctcttcct tgaggcttca gaccgggatg agccaggcac 600 agccaacteg gatettegat tecaeatect gagecagget ecageceage 650 cttccccaga catgttccag ctggagcctc ggctgggggc tctggccctc 700 agccccaagg ggagcaccag ccttgaccac gccctggaga ggacctacca 750 gctgttggta caggtcaagg acatgggtga ccaggcctca ggccaccagg 800 ccactgccac cgtggaagtc tccatcatag agagcacctg ggtgtcccta 850 gagcctatcc acctggcaga gaatctcaaa gtcctatacc cgcaccacat 900 ggcccaggta cactggagtg ggggtgatgt gcactatcac ctggagagcc 950 atcccccggg accctttgaa gtgaatgcag agggaaacct ctacgtgacc 1000 agagagetgg acagagaage ceaggetgag tacetgetee aggtgeggge 1050 tcagaattcc catggcgagg actatgcggc ccctctggag ctgcacgtgc 1100 tggtgatgga tgagaatgac aacgtgccta tctgccctcc ccgtgacccc 1150 acagtcagca tecetgaget cagtecacca ggtaetgaag tgaetagaet 1200 gtcagcagag gatgcagatg cccccggctc ccccaattcc cacgttgtgt 1250 atcagetect gageeetgag eetgaggatg gggtagaggg gagageette 1300 caggtggacc ccacttcagg cagtgtgacg ctgggggtgc tcccactccg 1350 agcaggccag aacatcctgc ttctggtgct ggccatggac ctggcaggcg 1400 cagagggtgg cttcagcagc acgtgtgaag tcgaagtcgc agtcacagat 1450 atcaatgatc acgcccctga gttcatcact tcccagattg ggcctataag 1500 cctccctgag gatgtggagc ccgggactct ggtggccatg ctaacagcca 1550 ttgatgctga cctcgagccc gccttccgcc tcatggattt tgccattgag 1600 aggggagaca cagaagggac ttttggcctg gattgggagc cagactctgg 1650

```
gcatgttaga ctcagactct gcaagaacct cagttatgag gcagctccaa 1700
gtcatgaggt ggtggtggtg gtgcagagtg tggcgaagct ggtggggcca 1750
ggcccaggcc ctggagccac cgccacggtg actgtgctag tggagagagt 1800
gatgccaccc cccaagttgg accaggagag ctacgaggcc agtgtcccca 1850
tcagtgcccc agccggctct ttcctgctga ccatccagcc ctccgacccc 1900
atcagecgaa eceteaggtt etecetagte aatgaeteag agggetgget 1950
ctgcattgag aaattctccg gggaggtgca caccgcccag tccctgcagg 2000
gcgcccagcc tggggacacc tacacggtgc ttgtggaggc ccaggataca 2050
gccctgactc ttgcccctgt gccctcccaa tacctctgca caccccgcca 2100
agaccatggc ttgatcgtga gtggacccag caaggacccc gatctggcca 2150
gtgggcacgg tccctacagc ttcacccttg gtcccaaccc cacggtgcaa 2200
cgggattggc gcctccagac tctcaatggt tcccatgcct acctcacctt 2250
ggccctgcat tgggtggagc cacgtgaaca cataatcccc gtggtggtca 2300
gccacaatgc ccagatgtgg cagctcctgg ttcgagtgat cgtgtgtcgc 2350
tgcaacgtgg aggggcagtg catgcgcaag gtgggccgca tgaagggcat 2400
gcccacgaag ctgtcggcag tgggcatcct tgtaggcacc ctggtagcaa 2450
taggaatctt cctcatcctc attttcaccc actggaccat gtcaaggaag 2500
aaggacccgg atcaaccagc agacagcgtg cccctgaagg cgactgtctg 2550
aatggcccag gcagctctag ctgggagctt ggcctctggc tccatctgag 2600
tcccctggga gagagcccag cacccaagat ccagcagggg acaggacaga 2650
gtagaagccc ctccatctgc cctggggtgg aggcaccatc accatcacca 2700
ggcatgtctg cagagcctgg acaccaactt tatggactgc ccatgggagt 2750
gctccaaatg tcagggtgtt tgcccaataa taaagcccca gagaactggg 2800
ctgggcccta tgggaaaaaa aaaaaaaaa aaaaaaaa aaaaaaag 2848
```

```
<210> 229
```

Ala Leu Pro Lys Ala Gln Pro Ala Glu Leu Ser Val Glu Val Pro

<sup>&</sup>lt;211> 807

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 229

Met Val Pro Ala Trp Leu Trp Leu Cys Val Ser Val Pro Gln
1 5 10 15

				20	)				25	)				30
Glu	ı Asn	Tyr	Gly	Gly 35	Asn	n Phe	e Pro	Leu	Tyr 40		Thr	: Lys	s Leu	Pro 45
Leu	Pro	Arg	Glu	Gly 50	Ala	ı Glu	Gly	Gln	Ile 55		Let	ı Ser	: Gly	Asp 60
Ser	Gly	Lys	Ala	Thr 65	Glu	Gly	Pro	Phe	Ala 70	Met	Asp	Prc	Asp	Ser 75
Gly	Phe	Leu	Leu	Val 80	Thr	Arg	Ala	Leu	Asp 85	Arg	Glu	Glu	Gln	Ala 90
Glu	Tyr	Gln	Leu	Gln 95	Val	Thr	Leu	Glu	Met 100	Gln	Asp	Gly	His	Val 105
Leu	Trp	Gly	Pro	Gln 110	Pro	Val	Leu	Val	His 115	Val	Lys	Asp	Glu	Asn 120
Asp	Gln	Val	Pro	His 125	Phe	Ser	Gln	Ala	Ile 130	Tyr	Arg	Ala	Arg	Leu 135
Ser	Arg	Gly	Thr	Arg 140	Pro	Gly	Ile	Pro	Phe 145	Leu	Phe	Leu	Glu	Ala 150
Ser	Asp	Arg	Asp	Glu 155	Pro	Gly	Thr	Ala	Asn 160	Ser	Asp	Leu	Arg	Phe 165
His	Ile	Leu	Ser	Gln 170	Ala	Pro	Ala	Gln	Pro 175	Ser	Pro	Asp	Met	Phe 180
Gln	Leu	Glu	Pro	Arg 185	Leu	Gly	Ala	Leu	Ala 190	Leu	Ser	Pro	Lys	Gly 195
Ser	Thr	Ser	Leu	Asp 200	His	Ala	Leu	Glu	Arg 205	Thr	Tyr	Gln	Leu	Leu 210
Val	Gln	Val	Lys	Asp 215	Met	Gly	Asp	Gln	Ala 220	Ser	Gly	His	Gln	Ala 225
Thr	Ala	Thr	Val	Glu 230	Val	Ser	Ile	Ile	Glu 235	Ser	Thr	Trp	Val	Ser 240
Leu	Glu	Pro	Ile	His 245	Leu	Ala	Glu	Asn	Leu 250	Lys	Val	Leu	Tyr	Pro 255
His	His	Met	Ala	Gln 260	Val	His	Trp	Ser	Gly 265	Gly	Asp	Val	His	Tyr 270
His	Leu	Glu	Ser	His 275	Pro	Pro	Gly	Pro	Phe 280	Glu	Val	Asn	Ala	Glu 285
Gly	Asn	Leu	Tyr	Val 290	Thr	Arg	Glu	Leu	Asp 295	Arg	Glu	Ala	Gln	Ala 300

310

315

Glu Tyr Leu Leu Gln Val Arg Ala Gln Asn Ser His Gly Glu Asp

305

Tyr Ala Ala Pro Leu Glu Leu His Val Leu Val Met Asp Glu Asn Asp Asn Val Pro Ile Cys Pro Pro Arg Asp Pro Thr Val Ser Ile Pro Glu Leu Ser Pro Pro Gly Thr Glu Val Thr Arg Leu Ser Ala Glu Asp Ala Asp Ala Pro Gly Ser Pro Asn Ser His Val Val Tyr 375 Gln Leu Leu Ser Pro Glu Pro Glu Asp Gly Val Glu Gly Arg Ala Phe Gln Val Asp Pro Thr Ser Gly Ser Val Thr Leu Gly Val Leu Pro Leu Arg Ala Gly Gln Asn Ile Leu Leu Leu Val Leu Ala Met 415 Asp Leu Ala Gly Ala Glu Gly Gly Phe Ser Ser Thr Cys Glu Val 425 430 Glu Val Ala Val Thr Asp Ile Asn Asp His Ala Pro Glu Phe Ile 440 445 Thr Ser Gln Ile Gly Pro Ile Ser Leu Pro Glu Asp Val Glu Pro 455 460 Gly Thr Leu Val Ala Met Leu Thr Ala Ile Asp Ala Asp Leu Glu 470 475 Pro Ala Phe Arg Leu Met Asp Phe Ala Ile Glu Arg Gly Asp Thr 490 Glu Gly Thr Phe Gly Leu Asp Trp Glu Pro Asp Ser Gly His Val Arg Leu Arg Leu Cys Lys Asn Leu Ser Tyr Glu Ala Ala Pro Ser His Glu Val Val Val Val Gln Ser Val Ala Lys Leu Val Gly 530 535 Pro Gly Pro Gly Ala Thr Ala Thr Val Thr Val Leu Val Glu Arg Val Met Pro Pro Pro Lys Leu Asp Gln Glu Ser Tyr Glu 560 Ala Ser Val Pro Ile Ser Ala Pro Ala Gly Ser Phe Leu Leu Thr 575 Ile Gln Pro Ser Asp Pro Ile Ser Arg Thr Leu Arg Phe Ser Leu 590 595 Val Asn Asp Ser Glu Gly Trp Leu Cys Ile Glu Lys Phe Ser Gly

				605					610					615
Glu	Val	His	Thr	Ala 620	Gln	Ser	Leu	Gln	Gly 625	Ala	Gln	Pro	Gly	Asp 630
Thr	Tyr	Thr	Val	Leu 635	Val	Glu	Ala	Gln	Asp 640	Thr	Ala	Leu	Thr	Leu 645
Ala	Pro	Val	Pro	Ser 650	Gln	Tyr	Leu	Суз	Thr 655	Pro	Arg	Gln	Asp	His 660
Gly	Leu	Ile	Val	Ser 665	Gly	Pro	Ser	Lys	Asp 670	Pro	Asp	Leu	Ala	Ser 675
Gly	His	Gly	Pro	Tyr 680	Ser	Phe	Thr	Leu	Gly 685	Pro	Asn	Pro	Thr	Val 690
Gln	Arg	Asp	Trp	Arg 695	Leu	Gln	Thr	Leu	Asn 700	Gly	Ser	His	Ala	Tyr 705
Leu	Thr	Leu	Ala	Leu 710	His	Trp	Val	Glu	Pro 715	Arg	Glu	His	Ile	Ile 720
Pro	Val	Val	Val	Ser 725	His	Asn	Ala	Gln	Met 730	Trp	Gln	Leu	Leu	Val 735
Arg	Val	Ile	Val	Cys 740	Arg	Cys	Asn	Val	Glu 745	Gly	Gln	Cys	Met	Arg 750
Lys	Val	Gly	Arg	Met 755	Lys	Gly	Met	Pro	Thr 760	Lys	Leu	Ser	Ala	Val 765
Gly	Ile	Leu	Val	Gly 770	Thr	Leu	Val	Ala	Ile 775	Gly	Ile	Phe	Leu	Ile 780
Leu	Ile	Phe	Thr	His 785	Trp	Thr	Met	Ser	Arg 790	Lys	Lys	Asp	Pro	Asp 795
Gln	Pro	Ala	Asp	Ser 800	Val	Pro	Leu	Lys	Ala 805	Thr	Val			
<210><211><211><212><213>	50 DNA	7	ial											
<220><221><222><223>	Art	0												
<400> cgcc		cg c	gcag	cccg	a ag	attc	acta	tgg	tgaa	aat	cgcc	ttca	at 5	0
<210> <211> <212> <213>	24 DNA	_	ial	Seqe	unce									

```
<220>
<221> Artificial Sequence
 <222> full
 <223> Synthetic oligonucleotide probe
<400> 231
 cctgagctgt aaccccactc cagg 24
<210> 232
<211> 23
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 232
 agagtctgtc ccagctatct tgt 23
<210> 233
<211> 2786
<212> DNA
<213> Homo sapiens
<400> 233
 ccggggacat gaggtggata ctgttcattg gggcccttat tgggtccagc 50
 atctgtggcc aagaaaaatt ttttggggac caagttttga ggattaatgt 100
 cagaaatgga gacgagatca gcaaattgag tcaactagtg aattcaaaca 150
 acttgaaget caatttetgg aaateteeet eeteetteaa teggeetgtg 200
 gatgtcctgg tcccatctgt cagtctgcag gcatttaaat ccttcctgag 250
 atcccagggc ttagagtacg cagtgacaat tgaggacctg caggcccttt 300
 tagacaatga agatgatgaa atgcaacaca atgaagggca agaacggagc 350
 agtaataact tcaactacgg ggcttaccat tccctggaag ctatttacca 400
 cgagatggac aacattgccg cagactttcc tgacctggcg aggagggtga 450
 agattggaca ttcgtttgaa aaccggccga tgtatgtact gaagttcagc 500
 actgggaaag gcgtgaggcg gccggccgtt tggctgaatg caggcatcca 550
 ttcccgagag tggatctccc aggccactgc aatctggacg qcaaggaaga 600
 ttgtatctga ttaccagagg gatccagcta tcacctccat cttggagaaa 650
 atggatattt tcttgttgcc tgtggccaat cctgatggat atgtgtatac 700
 tcaaactcaa aaccgattat ggaggaagac gcggtcccga aatcctggaa 750
 gctcctgcat tggtgctgac ccaaatagaa actggaacgc tagttttgca 800
 ggaaagggag ccagcgacaa cccttgctcc gaagtgtacc atggacccca 850
```

cgccaattcg gaagtggagg tgaaatcagt ggtagatttc atccaaaaac 900 atgggaattt caagggcttc atcgacctgc acagctactc gcagctgctg 950 atgtatccat atgggtactc agtcaaaaag gccccagatg ccgaggaact 1000 cgacaaggtg gcgaggcttg cggccaaagc tctggcttct gtgtcgggca 1050 ctgagtacca agtgggtccc acctgcacca ctgtctatcc agctagcggg 1100 agcagcatcg actgggcgta tgacaacggc atcaaatttg cattcacatt 1150 tgagttgaga gataccggga cctatggctt cctcctgcca gctaaccaga 1200 tcatccccac tgcagaggag acgtggctgg ggctgaagac catcatggag 1250 atttgtaccc acacgtgcac gcactgaggc cattgttaaa ggagctcttt 1350 cctacctgtg tgagtcagag ccctctgggt ttgtggagca cacaggcctg 1400 cccctctcca gccagctccc tggagtcgtg tgtcctggcg gtgtccctgc 1450 aagaactggt tctgccagcc tgctcaattt tggtcctgct gtttttgatg 1500 agcettttgt etgtttetee ttecaecetg etggetggge ggetgeaete 1550 agcatcaccc cttcctgggt ggcatgtctc tctctacctc atttttagaa 1600 ccaaagaaca tctgagatga ttctctaccc tcatccacat ctagccaagc 1650 cagtgacctt gctctggtgg cactgtggga gacaccactt gtctttaggt 1700 gggtctcaaa gatgatgtag aatttccttt aatttctcgc agtcttcctg 1750 gaaaatattt tcctttgagc agcaaatctt gtagggatat cagtgaaggt 1800 ctctccctcc ctcctcct gtttttttt tttttgagac agagttttgc 1850 tcttgttgcc caggctggag tgtgatggct cgatcttggc tcaccacaac 1900 ctctgcctcc tgggttcaag caattctcct gcctcagcct cttgagtagc 1950 ttggtttata ggcgcatgcc accatgcctg gctaattttg tgtttttagt 2000 agagacaggg tttctccatg ttggtcaggc tggtctcaaa ctcccaacct 2050 caggtgatct gccctccttg gcctcccaga gtgctgggat tacaggtgtg 2100 agccactgtg ccgggcccgt cccctccttt tttaggcctg aatacaaagt 2150 agaagatcac tttccttcac tgtgctgaga atttctagat actacagttc 2200 ttactcctct cttccctttg ttattcagtg tgaccaggat ggcgggaggg 2250 gatctgtgtc actgtaggta ctgtgcccag gaaggctggg tgaagtgacc 2300

<210> 234

<211> 421

<212> PRT

<213> Homo sapiens

<400> 234

Met Arg Trp Ile Leu Phe Ile Gly Ala Leu Ile Gly Ser Ser Ile 1 5 10 15

Cys Gly Gln Glu Lys Phe Phe Gly Asp Gln Val Leu Arg Ile Asn 20 25 30

Val Arg Asn Gly Asp Glu Ile Ser Lys Leu Ser Gln Leu Val Asn 35 40 45

Ser Asn Asn Leu Lys Leu Asn Phe Trp Lys Ser Pro Ser Ser Phe 50 55 60

Asn Arg Pro Val Asp Val Leu Val Pro Ser Val Ser Leu Gln Ala 65 70 75

Phe Lys Ser Phe Leu Arg Ser Gln Gly Leu Glu Tyr Ala Val Thr 80 85 90

Ile Glu Asp Leu Gln Ala Leu Leu Asp Asn Glu Asp Asp Glu Met 95 100 105

Gln His Asn Glu Gly Gln Glu Arg Ser Ser Asn Asn Phe Asn Tyr
110 115 120

Gly Ala Tyr His Ser Leu Glu Ala Ile Tyr His Glu Met Asp Asn 125 130 135

Ile Ala Ala Asp Phe Pro Asp Leu Ala Arg Arg Val Lys Ile Gly
140 145 150

His Ser Phe Glu Asn Arg Pro Met Tyr Val Leu Lys Phe Ser Thr 155 160 165

```
Gly Lys Gly Val Arg Arg Pro Ala Val Trp Leu Asn Ala Gly Ile
His Ser Arg Glu Trp Ile Ser Gln Ala Thr Ala Ile Trp Thr Ala
Arg Lys Ile Val Ser Asp Tyr Gln Arg Asp Pro Ala Ile Thr Ser
Ile Leu Glu Lys Met Asp Ile Phe Leu Leu Pro Val Ala Asn Pro
Asp Gly Tyr Val Tyr Thr Gln Thr Gln Asn Arg Leu Trp Arg Lys
                                     235
Thr Arg Ser Arg Asn Pro Gly Ser Ser Cys Ile Gly Ala Asp Pro
Asn Arg Asn Trp Asn Ala Ser Phe Ala Gly Lys Gly Ala Ser Asp
                260
Asn Pro Cys Ser Glu Val Tyr His Gly Pro His Ala Asn Ser Glu
                                     280
Val Glu Val Lys Ser Val Val Asp Phe Ile Gln Lys His Gly Asn
Phe Lys Gly Phe Ile Asp Leu His Ser Tyr Ser Gln Leu Leu Met
                                    310
Tyr Pro Tyr Gly Tyr Ser Val Lys Lys Ala Pro Asp Ala Glu Glu
Leu Asp Lys Val Ala Arg Leu Ala Ala Lys Ala Leu Ala Ser Val
Ser Gly Thr Glu Tyr Gln Val Gly Pro Thr Cys Thr Thr Val Tyr
                                    355
Pro Ala Ser Gly Ser Ser Ile Asp Trp Ala Tyr Asp Asn Gly Ile
Lys Phe Ala Phe Thr Phe Glu Leu Arg Asp Thr Gly Thr Tyr Gly
                380
                                    385
Phe Leu Leu Pro Ala Asn Gln Ile Ile Pro Thr Ala Glu Glu Thr
                                    400
Trp Leu Gly Leu Lys Thr Ile Met Glu His Val Arg Asp Asn Leu
                410
                                    415
```

Tyr

<210> 235

<211> 1743

<212> DNA

<213> Homo sapiens

<400> 235 caaccatgca aggacagggc aggagaagag gaacctgcaa agacatattt 50 tgttccaaaa tggcatctta cctttatgga gtactctttg ctgttggcct 100 ctgtgctcca atctactgtg tgtccccggc caatgccccc agtgcatacc 150 cccgcccttc ctccacaaag agcacccctg cctcacaggt gtattccctc 200 aacaccgact ttgccttccg cctataccgc aggctggttt tggagacccc 250 gagtcagaac atcttcttct ccctgtgag tgtctccact tccctggcca 300 tgctctccct tggggcccac tcagtcacca agacccagat tctccagggc 350 ctgggcttca acctcacaca cacaccagag tctgccatcc accagggctt 400 ccagcacctg gttcactcac tgactgttcc cagcaaagac ctgaccttga 450 agatgggaag tgccctcttc gtcaagaagg agctgcagct gcaggcaaat 500 ttcttgggca atgtcaagag gctgtatgaa gcagaagtct tttctacaga 550 tttctccaac ccctccattg cccaggcgag gatcaacagc catgtgaaaa 600 agaagaccca agggaaggtt gtagacataa tccaaggcct tgaccttctg 650 acggccatgg ttctggtgaa tcacattttc tttaaagcca agtgggagaa 700 gccctttcac cttgaatata caagaaagaa cttcccattc ctggtgggcg 750 agcaggtcac tgtgcaagtc cccatgatgc accagaaaga gcagttcgct 800 tttggggtgg atacagagct gaactgcttt gtgctgcaga tggattacaa 850 gggagatgcc gtggccttct ttgtcctccc tagcaagggc aagatgaggc 900 aactggaaca ggccttgtca gccagaacac tgataaagtg gagccactca 950 ctccagaaaa ggtggataga ggtgttcatc cccagatttt ccatttctgc 1000 ctcctacaat ctggaaacca tcctcccgaa gatgggcatc caaaatgcct 1050 ttgacaaaaa tgctgatttt tctggaattg caaagagaga ctccctgcag 1100 gtttctaaag caacccacaa ggctgtgctg gatgtcagtg aagagggcac 1150 tgaggccaca gcagctacca ccaccaagtt catagtccga tcgaaggatg 1200 gtccctctta cttcactgtc tccttcaata ggaccttcct gatgatgatt 1250 acaaataaag ccacagacgg tattctcttt ctagggaaag tggaaaatcc 1300 cactaaatcc taggtgggaa atggcctgtt aactgatggc acattgctaa 1350 tgaccccagt ggagctggat tcgctggcag ggatgccact tccaaggctc 1450

<210> 236

<211> 417

<212> PRT

<213> Homo sapiens

<400> 236

Met Ala Ser Tyr Leu Tyr Gly Val Leu Phe Ala Val Gly Leu Cys
1 5 10 15

Ala Pro Ile Tyr Cys Val Ser Pro Ala Asn Ala Pro Ser Ala Tyr
20 25 30

Pro Arg Pro Ser Ser Thr Lys Ser Thr Pro Ala Ser Gln Val Tyr 35 40 45

Ser Leu Asn Thr Asp Phe Ala Phe Arg Leu Tyr Arg Arg Leu Val
50 55 60

Leu Glu Thr Pro Ser Gln Asn Ile Phe Phe Ser Pro Val Ser Val
65 70 75

Ser Thr Ser Leu Ala Met Leu Ser Leu Gly Ala His Ser Val Thr 80 85 90

Lys Thr Gln Ile Leu Gln Gly Leu Gly Phe Asn Leu Thr His Thr 95 100 105

Pro Glu Ser Ala Ile His Gln Gly Phe Gln His Leu Val His Ser 110 115 120

Leu Thr Val Pro Ser Lys Asp Leu Thr Leu Lys Met Gly Ser Ala 125 130 135

Leu Phe Val Lys Lys Glu Leu Gln Leu Gln Ala Asn Phe Leu Gly
140 145 150

Asn Val Lys Arg Leu Tyr Glu Ala Glu Val Phe Ser Thr Asp Phe 155 160 165

Ser Asn Pro Ser Ile Ala Gln Ala Arg Ile Asn Ser His Val Lys 170 175 180

Lys Lys Thr Gln Gly Lys Val Val Asp Ile Ile Gln Gly Leu Asp 185 190 195

Leu Leu Thr Ala Met Val Leu Val Asn His Ile Phe Phe Lys Ala

				200					205					210
Lys	Trp	Glu	Lys	Pro 215	Phe	His	Leu	Glu	Tyr 220	Thr	Arg	Lys	Asn	Phe 225
Pro	Phe	Leu	Val	Gly 230	Glu	Gln	Val	Thr	Val 235	Gln	Val	Pro	Met	Met 240
His	Gln	Lys	Glu	Gln 245	Phe	Ala	Phe	Gly	Val 250	Asp	Thr	Glu	Leu	Asn 255
Cys	Phe	Val	Leu	Gln 260	Met	Asp	Tyr	Lys	Gly 265	Asp	Ala	Val	Ala	Phe 270
Phe	Val	Leu	Pro	Ser 275	Lys	Gly	Lys	Met	Arg 280	Gln	Leu	Glu	Gln	Ala 285
Leu	Ser	Ala	Arg	Thr 290	Leu	Ile	Lys	Trp	Ser 295	His	Ser	Leu	Gln	Lys 300
Arg	Trp	Ile	Glu	Val 305	Phe	Ile	Pro	Arg	Phe 310	Ser	Ile	Ser	Ala	Ser 315
Tyr	Asn	Leu	Glu	Thr 320	Ile	Leu	Pro	Lys	Met 325	Gly	Ile	Gln	Asn	Ala 330
Phe	Asp	Lys	Asn	Ala 335	Asp	Phe	Ser	Gly	Ile 340	Ala	Lys	Arg	Asp	Ser 345
Leu	Gln	Val	Ser	Lys 350	Ala	Thr	His	Lys	Ala 355	Val	Leu	Asp	Val	Ser 360
Glu	Glu	Gly	Thr	Glu 365	Ala	Thr	Ala	Ala	Thr 370	Thr	Thr	Lys	Phe	Ile 375
Val	Arg	Ser	Lys	Asp 380	Gly	Pro	Ser	Tyr	Phe 385	Thr	Val	Ser	Phe	Asn 390
Arg	Thr	Phe	Leu	Met 395	Met	Ile	Thr	Asn	Lys 400	Ala	Thr	Asp	Gly	Ile 405
Leu	Phe	Leu	Gly	Lys 410	Val	Glu	Asn	Pro	Thr 415	Lys	Ser			
<210><211><211><212><213>	> 23 > DNA	7	ial:											

<213> Artificial

<220>

<221> Artificial Sequence <222> 1-23

<223> Synthetic construct.

<400> 237

caaccatgca aggacagggc agg 23

<210> 238

```
<211> 47
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-47
<223> Synthetic construct.
<400> 238
ctttgctgtt ggcctctgtg ctcccaacca tgcaaggaca gggcagg 47
<210> 239
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 239
tgactcgggg tctccaaaac cagc 24
<210> 240
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 240
ggtataggcg gaaggcaaag tcgg 24
<210> 241
<211> 48
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-48
<223> Synthetic construct.
<400> 241
ggcatcttac ctttatggag tactctttgc tgttggcctc tgtgctcc 48
<210> 242
<211> 2436
<212> DNA
<213> Homo sapiens
<400> 242
```

ggctgaccgt gctacattgc ctggaggaag cctaaggaac ccaggcatcc 50

agctgcccac gcctgagtcc aagattcttc ccaggaacac aaacgtagga 100 gacccacgct cctggaagca ccagccttta tctcttcacc ttcaagtccc 150 ctttctcaag aatcctctgt tctttgccct ctaaagtctt ggtacatcta 200 ggacccaggc atcttgcttt ccagccacaa agagacagat gaagatgcag 250 aaaggaaatg ttctccttat gtttggtcta ctattgcatt tagaagctgc 300 aacaaattcc aatgagacta gcacctctgc caacactgga tccagtgtga 350 tctccagtgg agccagcaca gccaccaact ctgggtccag tgtgacctcc 400 agtggggtca gcacagccac catctcaggg tccagcgtga cctccaatgg 450 ggtcagcata gtcaccaact ctgagttcca tacaacctcc agtgggatca 500 gcacagccac caactctgag ttcagcacag cgtccagtgg gatcagcata 550 gccaccaact ctgagtccag cacaacctcc agtggggcca gcacagccac 600 caactctgag tccagcacac cctccagtgg ggccagcaca gtcaccaact 650 ctgggtccag tgtgacctcc agtggagcca gcactgccac caactctgag 700 tccagcacag tgtccagtag ggccagcact gccaccaact ctgagtctag 750 cacactetee agtggggeea geacageeae caactetgae tecageacaa 800 cctccagtgg ggctagcaca gccaccaact ctgagtccag cacaacctcc 850 agtggggcca gcacagccac caactctgag tccagcacag tgtccagtag 900 ggccagcact gccaccaact ctgagtccag cacaacctcc agtggggcca 950 gcacagccac caactctgag tccagaacga cctccaatgg ggctggcaca 1000 gccaccaact ctgagtccag cacgacctcc agtggggcca gcacagccac 1050 caactctgac tccagcacag tgtccagtgg ggccagcact gccaccaact 1100 ctgagtccag cacgacctcc agtggggcca gcacagccac caactctgag 1150 tccagcacga cctccagtgg ggctagcaca gccaccaact ctgactccag 1200 cacaacctcc agtggggccg gcacagccac caactctgag tccagcacag 1250 tgtccagtgg gatcagcaca gtcaccaatt ctgagtccag cacaccctcc 1300 agtggggcca acacagccac caactctgag tccagtacga cctccagtgg 1350 ggccaacaca gccaccaact ctgagtccag cacagtgtcc agtggggcca 1400 gcactgccac caactctgag tccagcacaa cctccagtgg ggtcagcaca 1450 gccaccaact ctgagtccag cacaacctcc agtggggcta gcacagccac 1500

caactctgac tccagcacaa cctccagtga ggccagcaca gccaccaact 1550 ctgagtctag cacagtgtcc agtgggatca gcacagtcac caattctgag 1600 tccagcacaa cctccagtgg ggccaacaca gccaccaact ctgggtccag 1650 tgtgacctct gcaggctctg gaacagcagc tctgactgga atgcacacaa 1700 cttcccatag tgcatctact gcagtgagtg aggcaaagcc tggtgggtcc 1750 ctggtgccgt gggaaatctt cctcatcacc ctggtctcgg ttgtggcggc 1800 cgtggggctc tttgctgggc tcttcttctg tgtgagaaac agcctgtccc 1850 tgagaaacac ctttaacaca gctgtctacc accctcatgg cctcaaccat 1900 ggccttggtc caggccctqg agggaatcat ggagcccccc acaggcccag 1950 gtggagtcct aactggttct ggaggagacc agtatcatcg atagccatgg 2000 agatgagegg gaggaacage gggeeetgag cageeeegga ageaagtgee 2050 gcattcttca ggaaggaaga gacctgggca cccaagacct ggtttccttt 2100 cattcatccc aggagacccc tcccagcttt gtttgagatc ctgaaaatct 2150 tgaagaaggt attcctcacc tttcttgcct ttaccagaca ctggaaagag 2200 aatactatat tgctcattta gctaagaaat aaatacatct catctaacac 2250 acacgacaaa gagaagctgt gcttgccccg gggtgggtat ctagctctga 2300 gatgaactca gttataggag aaaacctcca tgctggactc catctggcat 2350 tcaaaaatctc cacagtaaaa tccaaagacc tcaaaaaaaaa aaaaaaaaa 2400 aaaaaaaaa aaaaaaaaa aaaaaaaa aaaaaa 2436

<210> 243

<211> 596

<212> PRT

<213> Homo sapiens

<400> 243

Met Lys Met Gln Lys Gly Asn Val Leu Leu Met Phe Gly Leu Leu 1 5 10 15

Leu His Leu Glu Ala Ala Thr Asn Ser Asn Glu Thr Ser Thr Ser 20 25 30

Ala Asn Thr Gly Ser Ser Val Ile Ser Ser Gly Ala Ser Thr Ala

Thr Asn Ser Gly Ser Ser Val Thr Ser Ser Gly Val Ser Thr Ala
50 55 60

Thr Ile Ser Gly Ser Ser Val Thr Ser Asn Gly Val Ser Ile Val
65 70 75

Thr Asn Ser Glu Phe His Thr Thr Ser Ser Gly Ile Ser Thr Ala Thr Asn Ser Glu Phe Ser Thr Ala Ser Ser Gly Ile Ser Ile Ala Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala Thr Asn Ser Glu Ser Ser Thr Pro Ser Ser Gly Ala Ser Thr Val Thr Asn Ser Gly Ser Ser Val Thr Ser Ser Gly Ala Ser Thr Ala Thr Asn Ser Glu Ser Ser Thr Val Ser Ser Arg Ala Ser Thr Ala Thr Asn Ser Glu Ser Ser Thr Leu Ser Ser Gly Ala Ser Thr Ala 170 175 Thr Asn Ser Asp Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala 200 205 Thr Asn Ser Glu Ser Ser Thr Val Ser Ser Arg Ala Ser Thr Ala Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala 230 235 Thr Asn Ser Glu Ser Arg Thr Thr Ser Asn Gly Ala Gly Thr Ala Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala 260 Thr Asn Ser Asp Ser Ser Thr Val Ser Ser Gly Ala Ser Thr Ala 275 280 Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala 290 295 Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala 305 310 Thr Asn Ser Asp Ser Ser Thr Thr Ser Ser Gly Ala Gly Thr Ala 320 330 Thr Asn Ser Glu Ser Ser Thr Val Ser Ser Gly Ile Ser Thr Val 335 Thr Asn Ser Glu Ser Ser Thr Pro Ser Ser Gly Ala Asn Thr Ala 350 355 360 Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Asn Thr Ala

				365					370					375
Thr As	sn	Ser	Glu	Ser 380	Ser	Thr	Val	Ser	Ser 385	Gly	Ala	Ser	Thr	Ala 390
Thr As	sn	Ser	Glu	Ser 395	Ser	Thr	Thr	Ser	Ser 400	Gly	Val	Ser	Thr	Ala 405
Thr As	sn	Ser	Glu	Ser 410	Ser	Thr	Thr	Ser	Ser 415	Gly	Ala	Ser	Thr	Ala 420
Thr As	sn	Ser	Asp	Ser 425	Ser	Thr	Thr	Ser	Ser 430	Glu	Ala	Ser	Thr	Ala 435
Thr As	sn	Ser	Glu	Ser 440	Ser	Thr	Val	Ser	Ser 445	Gly	Ile	Ser	Thr	Val 450
Thr As	sn	Ser	Glu	Ser 455	Ser	Thr	Thr	Ser	Ser 460	Gly	Ala	Asn	Thr	Ala 465
Thr As	sn	Ser	Gly	Ser 470	Ser	Val	Thr	Ser	Ala 475	Gly	Ser	Gly	Thr	Ala 480
Ala Le	eu	Thr	Gly	Met 485	His	Thr	Thr	Ser	His 490	Ser	Ala	Ser	Thr	Ala 495
Val Se	er	Glu	Ala	Lys 500	Pro	Gly	Gly	Ser	Leu 505	Val	Pro	Trp	Glu	Ile 510
Phe Le	eu	Ile	Thr	Leu 515	Val	Ser	Val	Val	Ala 520	Ala	Val	Gly	Leu	Phe 525
Ala G	ly	Leu	Phe	Phe 530	Cys	Val	Arg	Asn	Ser 535	Leu	Ser	Leu	Arg	Asn 540
Thr Ph	he	Asn	Thr	Ala 545	Val	Tyr	His	Pro	His 550	Gly	Leu	Asn	His	Gly 555
Leu G	ly	Pro	Gly	Pro 560	Gly	Gly	Asn	His	Gly 565	Ala	Pro	His	Arg	Pro 570
Arg T	rp	Ser	Pro	Asn 575	Trp	Phe	Trp	Arg	Arg 580	Pro	Val	Ser	Ser	Ile 585
Ala Me	et	Glu	Met	Ser 590	Gly	Arg	Asn	Ser	Gly 595	Pro				

<210> 244

<211> 26 <212> DNA <213> Artificial

<220>

<221> Artificial Sequence

<222> 1-26

<223> Synthetic construct.

<400> 244

```
<210> 245
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic sequence.
<400> 245
gtcagagttg gtggctgtgc tagc 24
<210> 246
<211> 48
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-48
<223> Synthetic construct.
<400> 246
ggacccaggc atcttgcttt ccagccacaa aqaqacagat qaaqatgc 48
<210> 247
<211> 957
<212> DNA
<213> Homo sapiens
<400> 247
gggagagagg ataaatagca qcgtqqcttc cctqqctcct ctctqcatcc 50
ttcccgacct tcccagcaat atgcatcttg cacqtctqqt cqqctcctqc 100
 tccctccttc tgctactggg ggccctgtct ggatgggcgg ccagcgatga 150
 ccccattgag aaggtcattg aagggatcaa ccgagggctg agcaatgcag 200
 agagagaggt gggcaaggcc ctggatggca tcaacagtgg aatcacgcat 250
 gccggaaggg aagtggagaa ggttttcaac ggacttagca acatggggag 300
 ccacaccggc aaggagttgg acaaaggcgt ccaggggctc aaccacggca 350
 tggacaaggt tgcccatgag atcaaccatg gtattggaca agcaggaaag 400
gaagcagaga agcttggcca tggggtcaac aacgctgctg gacaggccgg 450
gaaggaagca gacaaagcgg tccaagggtt ccacactggg gtccaccagg 500
ctgggaagga agcagagaaa cttggccaag qggtcaacca tgctgctgac 550
caggctggaa aggaagtgga gaagcttggc caaggtgccc accatgctgc 600
```

gaagcaccag cctttatctc ttcacc 26

tggccaggcc gggaaggagc tgcagaatgc tcataatggg gtcaaccaag 650 ccagcaagga ggccaaccag ctgctgaatg gcaaccatca aagcggatct 700 tccagccatc aaggagggc cacaaccacg ccgttagcct ctggggcctc 750 agtcaacacg cctttcatca accttcccgc cctgtggagg agcgtcgcca 800 acatcatgcc ctaaactggc atccggcctt gctgggagaa taatgtcgcc 850 gttgtcacat cagctgacat gacctggagg ggttgggggt gggggacagg 900 tttctgaaat ccctgaaggg ggttgtactg ggatttgtga ataaacttga 950 tacacca 957

<210> 248

<211> 247

<212> PRT

<213> Homo sapiens

<400> 248

Met His Leu Ala Arg Leu Val Gly Ser Cys Ser Leu Leu Leu 1 5 10 15

Leu Gly Ala Leu Ser Gly Trp Ala Ala Ser Asp Asp Pro Ile Glu 20 25 30

Lys Val Ile Glu Gly Ile Asn Arg Gly Leu Ser Asn Ala Glu Arg 35 40 45

Glu Val Gly Lys Ala Leu Asp Gly Ile Asn Ser Gly Ile Thr His
50 55 60

Ala Gly Arg Glu Val Glu Lys Val Phe Asn Gly Leu Ser Asn Met 65 70 75

Gly Ser His Thr Gly Lys Glu Leu Asp Lys Gly Val Gln Gly Leu 80 85 90

Asn His Gly Met Asp Lys Val Ala His Glu Ile Asn His Gly Ile 95 100 105

Gly Gln Ala Gly Lys Glu Ala Glu Lys Leu Gly His Gly Val Asn 110 115 120

Asn Ala Ala Gly Gln Ala Gly Lys Glu Ala Asp Lys Ala Val Gln 125 130 135

Gly Phe His Thr Gly Val His Gln Ala Gly Lys Glu Ala Glu Lys 140 145 150

Leu Gly Gln Gly Val Asn His Ala Ala Asp Gln Ala Gly Lys Glu 155 160 165

Val Glu Lys Leu Gly Gln Gly Ala His His Ala Ala Gly Gln Ala 170 175 180

```
Gly Lys Glu Leu Gln Asn Ala His Asn Gly Val Asn Gln Ala Ser
                 185
 Lys Glu Ala Asn Gln Leu Leu Asn Gly Asn His Gln Ser Gly Ser
 Ser Ser His Gln Gly Gly Ala Thr Thr Thr Pro Leu Ala Ser Gly
                                      220
 Ala Ser Val Asn Thr Pro Phe Ile Asn Leu Pro Ala Leu Trp Arg
                                      235
 Ser Val Ala Asn Ile Met Pro
                 245
<210> 249
<211> 23
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-23
<223> Synthetic construct.
<400> 249
caatatgcat cttgcacgtc tgg 23
<210> 250
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 250
 aagcttctct gcttcctttc ctgc 24
<210> 251
<211> 43
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-43
<223> Synthetic construct.
tgaccccatt gagaaggtca ttgaagggat caaccgaggg ctg 43
<210> 252
<211> 3781
<212> DNA
<213> Homo sapiens
```

<400> 252 ctccgggtcc ccaggggctg cgccgggccg gcctggcaag ggggacgagt 50 cagtggacac tccaggaaga gcggccccgc ggggggcgat gaccgtgcgc 100 tgaccctgac tcactccagg tccggaggcg ggggcccccg gggcgactcg 150 ggggcggacc gcggggcgga gctgccgccc gtgagtccgg ccgagccacc 200 tgagcccgag ccgcgggaca ccgtcgctcc tgctctccga atgctgcgca 250 ccgcgatggg cctgaggagc tggctcgccg ccccatgggg cgcgctgccg 300 cctcggccac cgctgctgct gctcctgctg ctgctgctcc tgctgcagcc 350 gccgcctccg acctgggcgc tcagccccg gatcagcctg cctctgggct 400 ctgaagagcg gccattcctc agattcgaag ctgaacacat ctccaactac 450 acagecette tgetgageag ggatggeagg accetgtacg tgggtgeteg 500 agaggccctc tttgcactca gtagcaacct cagcttcctg ccaggcgggg 550 agtaccagga gctgctttgg ggtgcagacg cagagaagaa acagcagtgc 600 agetteaagg geaaggacee acagegegae tgteaaaaet acateaagat 650 cctcctgccg ctcagcggca gtcacctgtt cacctgtggc acagcagcct 700 tcagccccat gtgtacctac atcaacatgg agaacttcac cctggcaagg 750 gacgagaagg ggaatgtcct cctggaagat ggcaagggcc gttgtccctt 800 cgacccgaat ttcaagtcca ctgccctggt ggttgatggc gagctctaca 850 ctggaacagt cagcagcttc caagggaatg acccggccat ctcgcggagc 900 caaagcette geeceaceaa gaeegagage teeeteaact ggetgeaaga 950 cccagctttt gtggcctcag cctacattcc tgagagcctg ggcagcttgc 1000 aaggcgatga tgacaagatc tactttttct tcagcgagac tggccaggaa 1050 tttgagttct ttgagaacac cattgtgtcc cgcattgccc gcatctgcaa 1100 gggcgatgag ggtggagagc gggtgctaca gcagcgctgg acctccttcc 1150 tcaaggccca gctgctgtgc tcacggcccg acgatggctt ccccttcaac 1200 gtgctgcagg atgtcttcac gctgagcccc agcccccagg actggcgtga 1250 caccetttte tatggggtet teaetteeca gtggcacagg ggaactacag 1300 aaggetetge egtetgtgte tteacaatga aggatgtgea gagagtette 1350 agcggcctct acaaggaggt gaaccgtgag acacagcagt ggtacaccgt 1400 gacccacccg gtgcccacac cccggcctgg agcgtgcatc accaacagtg 1450

cccgggaaag gaagatcaac tcatccctgc agctcccaga ccgcgtgctg 1500 aacttcctca aggaccactt cctgatggac gggcaggtcc gaagccgcat 1550 gctgctgctg cagccccagg ctcgctacca gcgcgtggct gtacaccgcg 1600 tocotggcot goaccacaco tacgatgtoc tottoctggg cactggtgac 1650 ggccggctcc acaaggcagt gagcgtggc ccccgggtgc acatcattga 1700 ggagctgcag atcttctcat cgggacagcc cgtgcagaat ctgctcctgg 1750 acacccacag ggggctgctg tatgcggcct cacactcggg cgtagtccag 1800 gtgcccatgg ccaactgcag cctgtaccgg agctgtgggg actgcctcct 1850 cgcccgggac ccctactgtg cttggagcgg ctccagctgc aagcacgtca 1900 gcctctacca gcctcagctg gccaccaggc cgtggatcca ggacatcgag 1950 ggagccagcg ccaaggacct ttgcagcgcg tcttcggttg tgtccccgtc 2000 ttttgtacca acaggggaga agccatgtga gcaagtccag ttccagccca 2050 acacagtgaa cactttggcc tgcccgctcc tctccaacct ggcgacccga 2100 ctctggctac gcaacggggc ccccgtcaat gcctcggcct cctgccacgt 2150 gctacccact ggggacctgc tgctggtggg cacccaacag ctgggggagt 2200 tccagtgctg gtcactagag gagggcttcc agcagctggt agccagctac 2250 tgcccagagg tggtggagga cggggtggca gaccaaacag atgagggtgg 2300 cagtgtaccc gtcattatca gcacatcgcg tgtgagtgca ccagctggtg 2350 gcaaggccag ctggggtgca gacaggtcct actggaagga gttcctggtg 2400 atgtgcacgc tctttgtgct ggccgtgctg ctcccagttt tattcttgct 2450 ctaccggcac cggaacagca tgaaagtctt cctgaagcag ggggaatgtg 2500 ccagcgtgca ccccaagacc tgccctgtgg tgctgccccc tgagacccgc 2550 ccactcaacg gcctagggcc ccctagcacc ccgctcgatc accgagggta 2600 ccagtccctg tcagacagcc ccccgggggc ccgagtcttc actgagtcag 2650 agaagaggcc actcagcatc caagacagct tcgtggaggt atccccagtg 2700 tgcccccggc cccgggtccg ccttggctcg gagatccgtg actctgtggt 2750 gtgagagetg acttecagag gaegetgeee tggetteagg ggetgtgaat 2800 gctcggagag ggtcaactgg acctcccctc cgctctgctc ttcgtggaac 2850 acgaccgtgg tgcccggccc ttgggagcct tggagccagc tggcctgctg 2900

ctctccagtc aagtagcgaa gctcctacca cccagacacc caaacagccg 2950 tggccccaga ggtcctggcc aaatatgggg gcctgcctag gttggtggaa 3000 cagtgctcct tatgtaaact gagccctttg tttaaaaaac aattccaaat 3050 gtgaaactag aatgagaggg aagagatagc atggcatgca gcacacacgg 3100 ctgctccagt tcatggcctc ccaggggtgc tggggatgca tccaaagtgg 3150 ttgtctgaga cagagttgga aaccctcacc aactggcctc ttcaccttcc 3200 acattatece getgecaceg getgecetgt etcaetgeag atteaggace 3250 agettggget gegtgegtte tgeettgeea gteageegag gatgtagttg 3300 ttgctgccgt cgtcccacca cctcagggac cagagggcta ggttggcact 3350 gcggccctca ccaggtcctg ggctcggacc caactcctgg acctttccag 3400 cctgtatcag gctgtggcca cacgagagga cagcgcgagc tcaggagaga 3450 tttcgtgaca atgtacgcct ttccctcaga attcagggaa gagactgtcg 3500 cctgccttcc tccgttgttg cgtgagaacc cgtgtqcccc ttcccaccat 3550 atccaccete getecatett tgaactcaaa cacgaggaac taactgcace 3600 ctggtcctct ccccagtccc cagttcaccc tccatccctc accttcctcc 3650 actctaaggg atatcaacac tgcccagcac aggggccctg aatttatgtg 3700 gtttttatac attttttaat aagatgcact ttatgtcatt ttttaataaa 3750 gtctgaagaa ttactgttta aaaaaaaaaa a 3781

<210> 253

<211> 837

<212> PRT

<213> Homo sapiens

<400> 253

Met Leu Arg Thr Ala Met Gly Leu Arg Ser Trp Leu Ala Ala Pro 1 5 10 15

Trp Gly Ala Leu Pro Pro Arg Pro Pro Leu Leu Leu Leu Leu 20 25 30

Leu Leu Leu Leu Gln Pro Pro Pro Pro Thr Trp Ala Leu Ser 35 40 45

Pro Arg Ile Ser Leu Pro Leu Gly Ser Glu Glu Arg Pro Phe Leu 50 55 60

Arg Phe Glu Ala Glu His Ile Ser Asn Tyr Thr Ala Leu Leu Leu 65 70 75

Ser Arg Asp Gly Arg Thr Leu Tyr Val Gly Ala Arg Glu Ala Leu

				80					85					90
Phe	Ala	Leu	Ser	Ser 95	Asn	Leu	Ser	Phe	Leu 100	Pro	Gly ·	Gly	Glu	Tyr 105
Gln	Glu	Leu	Leu	Trp 110	Gly	Ala	Asp	Ala	Glu 115	Lys	Lys	Gln	Gln	Cys 120
Ser	Phe	Lys	Gly	Lys 125	Asp	Pro	Gln	Arg	Asp 130	Cys	Gln	Asn	Tyr	Ile 135
Lys	Ile	Leu	Leu	Pro 140	Leu	Ser	Gly	Ser	His 145	Leu	Phe	Thr	Cys	Gly 150
Thr	Ala	Ala	Phe	Ser 155	Pro	Met	Cys	Thr	Tyr 160	Ile	Asn	Met	Glu	Asn 165
Phe	Thr	Leu	Ala	Arg 170	Asp	Glu	Lys	Gly	Asn 175	Val	Leu	Leu	Glu	Asp 180
Gly	Lys	Gly	Arg	Cys 185	Pro	Phe	Asp	Pro	Asn 190	Phe	Lys	Ser	Thr	Ala 195
Leu	Val	Val	Asp	Gly 200	Glu	Leu	Tyr	Thr	Gly 205	Thr	Val	Ser	Ser	Phe 210
Gln	Gly	Asn	Asp	Pro 215	Ala	Ile	Ser	Arg	Ser 220	Gln	Ser	Leu	Arg	Pro 225
Thr	Lys	Thr	Glu	Ser 230	Ser	Leu	Asn	Trp	Leu 235	Gln	Asp	Pro	Ala	Phe 240
Val	Ala	Ser	Ala	Tyr 245	Ile	Pro	Glu	Ser	Leu 250	Gly	Ser	Leu	Gln	Gly 255
Asp	Asp	Asp	Lys	Ile 260	Tyr	Phe	Phe	Phe	Ser 265	Glu	Thr	Gly	Gln	Glu 270
Phe	Glu	Phe	Phe	Glu 275	Asn	Thr	Ile	Val	Ser 280	Arg	Ile	Ala	Arg	Ile 285
Cys	Lys	Gly	Asp	Glu 290	Gly	Gly	Glu	Arg	Val 295	Leu	Gln	Gln	Arg	Trp 300
Thr	Ser	Phe	Leu	Lys 305	Ala	Gln	Leu	Leu	Cys 310	Ser	Arg	Pro	Asp	Asp 315
Gly	Phe	Pro	Phe	Asn 320	Val	Leu	Gln	Asp	Val 325	Phe	Thr	Leu	Ser	Pro 330
Ser	Pro	Gln	Asp	Trp 335	Arg	Asp	Thr	Leu	Phe 340	Tyr	Gly	Val	Phe	Thr 345
Ser	Gln	Trp	His	Arg 350	Gly	Thr	Thr	Glu	Gly 355	Ser	Ala	Val	Cys	Val 360
Phe	Thr	Met	Lys	Asp	Val	Gln	Arg	Val	Phe	Ser	Gly	Leu	Tyr	Lys 375

Glu Val Asn Arg Glu Thr Gln Gln Trp Tyr Thr Val Thr His Pro 380 385 Val Pro Thr Pro Arg Pro Gly Ala Cys Ile Thr Asn Ser Ala Arg 395 Glu Arg Lys Ile Asn Ser Ser Leu Gln Leu Pro Asp Arg Val Leu 415 Asn Phe Leu Lys Asp His Phe Leu Met Asp Gly Gln Val Arg Ser Arg Met Leu Leu Gln Pro Gln Ala Arg Tyr Gln Arg Val Ala Val His Arg Val Pro Gly Leu His His Thr Tyr Asp Val Leu Phe Leu Gly Thr Gly Asp Gly Arg Leu His Lys Ala Val Ser Val Gly Pro Arg Val His Ile Ile Glu Glu Leu Gln Ile Phe Ser Ser Gly Gln Pro Val Gln Asn Leu Leu Leu Asp Thr His Arg Gly Leu Leu Tyr Ala Ala Ser His Ser Gly Val Val Gln Val Pro Met Ala Asn Cys Ser Leu Tyr Arg Ser Cys Gly Asp Cys Leu Leu Ala Arg Asp Pro Tyr Cys Ala Trp Ser Gly Ser Ser Cys Lys His Val Ser Leu Tyr Gln Pro Gln Leu Ala Thr Arg Pro Trp Ile Gln Asp Ile Glu Gly Ala Ser Ala Lys Asp Leu Cys Ser Ala Ser Ser Val Val Ser Pro Ser Phe Val Pro Thr Gly Glu Lys Pro Cys Glu Gln Val Gln 590 Phe Gln Pro Asn Thr Val Asn Thr Leu Ala Cys Pro Leu Leu Ser Asn Leu Ala Thr Arg Leu Trp Leu Arg Asn Gly Ala Pro Val Asn 630 Ala Ser Ala Ser Cys His Val Leu Pro Thr Gly Asp Leu Leu Val Gly Thr Gln Gln Leu Gly Glu Phe Gln Cys Trp Ser Leu Glu 660 Glu Gly Phe Gln Gln Leu Val Ala Ser Tyr Cys Pro Glu Val Val

				665					670					675
Glu	Asp	Gly	Val	Ala 680	Asp	Gln	Thr	Asp	Glu 685	Gly	Gly	Ser	Val	Pro 690
Val	Ile	Ile	Ser	Thr 695	Ser	Arg	Val	Ser	Ala 700	Pro	Ala	Gly	Gly	Lys 705
Ala	Ser	Trp	Gly	Ala 710	Asp	Arg	Ser	Tyr	Trp 715	Lys	Glu	Phe	Leu	Val 720
Met	Cys	Thr	Leu	Phe 725	Val	Leu	Ala	Val	Leu 730	Leu	Pro	Val	Leu	Phe 735
Leu	Leu	Tyr	Arg	His 740	Arg	Asn	Ser	Met	Lys 745	Val	Phe	Leu	Lys	Gln 750
Gly	Glu	Cys	Ala	Ser 755	Val	His	Pro	Lys	Thr 760	Cys	Pro	Val	Val	Leu 765
Pro	Pro	Glu	Thr	Arg 770	Pro	Leu	Asn	Gly	Leu 775	Gly	Pro	Pro	Ser	Thr 780
Pro	Leu	Asp	His	Arg 785	Gly	Tyr	Gln	Ser	Leu 790	Ser	Asp	Ser	Pro	Pro 795
Gly	Ala	Arg	Val	Phe 800	Thr	Glu	Ser	Glu	Lys 805	Arg	Pro	Leu	Ser	Ile 810
Gln	Asp	Ser	Phe	Val 815	Glu	Val	Ser	Pro	Val 820	Cys	Pro	Arg	Pro	Arg 825
Val	Arg	Leu	Gly	Ser 830	Glu	Ile	Arg	Asp	Ser 835	Val	Val			
<2103 <2113 <2123 <2133	> 24 > DN	£	cial											
<2203 <2213 <2223 <2233	> Art	24												
<4000 agc		1 gca g	gaato	ctgct	cc ct	tgg 2	24							
<2103 <2113 <2123 <2133	> 24 > DN	£	cial											
<2203 <2213 <2223 <2233	> Art	24		_										

```
<400> 255
 tgaagccagg gcagcgtcct ctgg 24
<210> 256
<211> 18
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.
<400> 256
 gtacaggctg cagttggc 18
<210> 257
<211> 41
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-41
<223> Synthetic construct.
<400> 257
agaagccatg tgagcaagtc cagttccagc ccaacacagt g 41
<210> 258
<211> 45
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-45
<223> Synthetic construct.
<400> 258
 gagctgcaga tcttctcatc gggacagccc gtgcagaatc tgctc 45
<210> 259
<211> 4563
<212> DNA
<213> Homo sapiens
<220>
<221> unsure
<222> 3635
<223> unknown base
<400> 259
 ctaagccgga ggatgtgcag ctgcggcggc ggcgccggct acgaagagga 50
cggggacagg cgccgtgcga accgagccca gccagccgga ggacgcgggc 100
```

agggcgggac gggagcccgg actcgtctgc cgccgccgtc gtcgccgtcg 150

tgccggcccc gcgtccccgc gcgcgagcgg gaggagccgc cgccacctcg 200 cgcccgagcc gccgctagcg cgcgccgggc atggtcccct cttaaaggcg 250 caggccgcgg cggcgggggc gggtgtgcgg aacaaagcgc cggcgcgggg 300 cctgcgggcg gctcgggggc cgcgatgggc gcggcgggcc cgcggcggcg 350 gcggcgctgc ccgggccggg cctcgcggcg ctaggccggg ctggcctccg 400 tgggcggggg cagcgggctg agggcgcgcg gagcctgcgg cggcggcggc 450 ggcggcggcg gcggcccggc gggcggagcg gcgcgggcat ggccgcgcgc 500 ggccggcgcg cctggctcag cgtgctgctc gggctcgtcc tgggcttcgt 550 gctggcctcg cggctcgtcc tgccccgggc ttccgagctg aagcgagcgg 600 gcccacggcg ccgcgccagc cccgagggct gccggtccgg gcaggcggcg 650 gcttcccagg ccggcgggc gcgcggcgat gcgcgcgggg cgcagctctg 700 gccgcccggc tcggacccag atggcggccc gcgcgacagg aactttctct 750 tcgtgggagt catgaccgcc cagaaatacc tgcagactcg ggccgtggcc 800 gcctacagaa catggtccaa gacaattcct gggaaagttc agttcttctc 850 aagtgagggt tetgaeacat etgtaeeaat teeagtagtg eeactaeggg 900 gtgtggacga ctcctacccg ccccagaaga agtccttcat gatgctcaag 950 tacatgcacg accactactt ggacaagtat gaatggttta tgagagcaga 1000 tgatgacgtg tacatcaaag gagaccgtct ggagaacttc ctgaggagtt 1050 tgaacagcag cgagcccctc titcttgggc agacaggcct gggcaccacg 1100 gaagaaatgg gaaaactggc cctggagcct ggtgagaact tctgcatggg 1150 ggggcctggc gtgatcatga gccgggaggt gcttcggaga atggtgccgc 1200 acattggcaa gtgtctccgg gagatgtaca ccacccatga ggacgtggag 1250 gtgggaaggt gtgtccggag gtttgcaggg gtgcagtgtg tctggtctta 1300 tgagatgcgg cagctttttt atgagaatta cgagcagaac aaaaaggggt 1350 acattagaga tetecataac agtaaaatte accaagetat cacattacae 1400 cccaacaaaa acccacccta ccagtacagg ctccacagct acatgctgag 1450 ccgcaagata tccgagctcc gccatcgcac aatacagctg caccgcgaaa 1500 ttgtcctgat gagcaaatac agcaacacag aaattcataa agaggacctc 1550 cagctgggaa tccctccctc cttcatgagg tttcagcccc gccagcgaga 1600

ggagattctg gaatgggagt ttctgactgg aaaatacttg tattcggcag 1650 ttgacggcca gcccctcga agaggaatgg actccgccca gagggaagcc 1700 ttggacgaca ttgtcatgca ggtcatggag atgatcaatg ccaacgccaa 1750 gaccagaggg cgcatcattg acttcaaaga gatccagtac ggctaccgcc 1800 gggtgaaccc catgtatggg gctgagtaca tcctggacct gctgcttctg 1850 tacaaaaagc acaaagggaa gaaaatgacg gtccctgtga ggaggcacgc 1900 gtatttacag cagactttca gcaaaatcca gtttgtggag catgaggagc 1950 tggatgcaca agagttggcc aagagaatca atcaggaatc tggatccttg 2000 tcctttctct caaactccct gaagaagetc gtcccctttc agctccctgg 2050 gtcgaagagt gagcacaaag aacccaaaga taaaaagata aacatactga 2100 ttcctttgtc tgggcgtttc gacatgtttg tgagatttat gggaaacttt 2150 gagaagacgt gtcttatccc caatcagaac gtcaagctcg tggttctgct 2200 tttcaattct gactccaacc ctgacaaggc caaacaagtt gaactgatga 2250 gagattaccg cattaagtac cctaaagccg acatgcagat tttgcctgtg 2300 tctggagagt tttcaagagc cctggccctg gaagtaggat cctcccagtt 2350 taacaatgaa totttgctct tottotgcga cgtcgacctc gtgtttacta 2400 cagaattcct tcagcgatgt cgagcaaata cagttctggg ccaacaaata 2450 tattttccaa tcatcttcag ccagtatgac ccaaagattg tttatagtgg 2500 gaaagttccc agtgacaacc attttgcctt tactcagaaa actggcttct 2550 ggagaaacta tgggtttggc atcacgtgta tttataaggg agatcttgtc 2600 cgagtgggtg gctttgatgt ttccatccaa ggctgggggc tggaggatgt 2650 ggaccttttc aacaaggttg tccaggcagg tttgaagacg tttaggagcc 2700 aggaagtagg agtagtccac gtccaccatc ctgtcttttg tgatcccaat 2750 cttgacccca aacagtacaa aatgtgcttg gggtccaaag catcgaccta 2800 tgggtccacc cagcagctgg ctgagatgtg gctggaaaaa aatgatccaa 2850 gttacagtaa aagcagcaat aataatggct cagtgaggac agcctaatgt 2900 ccagctttgc tggaaaagac gtttttaatt atctaattta tttttcaaaa 2950 attttttgta tgatcagttt ttgaagtccg tatacaagga tatattttac 3000 aagtggtttt cttacatagg actcctttaa gattgagctt tctgaacaag 3050

aaggtgatca gtgtttgcct ttgaacacat cttcttgctg aacattatgt 3100 agcagacctg cttaactttg acttgaaatg tacctgatga acaaaacttt 3150 tttaaaaaaa tgttttcttt tgagaccctt tgctccagtc ctatggcaga 3200 aaacgtgaac attcctgcaa agtattattg taacaaaaca ctgtaactct 3250 ggtaaatgtt ctgttgtgat tgttaacatt ccacagattc taccttttgt 3300 gttttgtttt tttttttac aattgtttta aagccatttc atgttccagt 3350 tgtaagataa ggaaatgtga taatagctgt ttcatcattg tcttcaggag 3400 agctttccag agttgatcat ttcctctcat ggtactctgc tcagcatggc 3450 cacgtaggtt ttttgtttgt tttgttttgt tctttttttg agacggagtc 3500 tcactctgtt acccaggctg gaatgcagtg gcgcaatctt ggctcacttt 3550 aacctccact tccctggttc aagcaattcc cctgcctttg cctcccgagt 3600 agctgggatt acaggcacac accaccacgc ccagntagtt tttttgtatt 3650 tttagtagag acggggtttc accatgcaag cccagctggc cacgtaggtt 3700 ttaaagcaag gggcgtgaag aaggcacagt gaggtatgtg gctgttctcg 3750 tggtagttca ttcggcctaa atagacctgg cattaaattt caagaaggat 3800 ttggcatttt ctcttcttga cccttctctt taaagggtaa aatattaatg 3850 tttagaatga caaagatgaa ttattacaat aaatctgatg tacacagact 3900 gaaacataca cacatacacc ctaatcaaaa cgttggggaa aaatgtattt 3950 ggttttgttc ctttcatcct gtctgtgtta tgtgggtgga gatggttttc 4000 attetteat tactgttttg ttttateett tgtatetgaa atacetttaa 4050 tttatttaat atctgttgtt cagagetetg ceatttettg agtacetgtt 4100 agttagtatt atttatgtgt atcgggagtg tgtttagtct gttttatttg 4150 cagtaaaccg atctccaaag atttcctttt ggaaacgctt tttcccctcc 4200 ttaattttta tattccttac tgttttacta aatattaagt gttctttgac 4250 aattttggtg ctcatgtgtt ttggggacaa aagtgaaatg aatctgtcat 4300 tataccagaa agttaaattc tcagatcaaa tgtgccttaa taaatttgtt 4350 ttcatttaga tttcaaacag tgatagactt gccattttaa tacacgtcat 4400 tggagggctg cgtatttgta aatagcctga tgctcatttg gaaaaataaa 4450 ccagtgaaca atattttct attgtacttt tcgaaccatt ttgtctcatt 4500

attcctgttt tagctgaaga attgtattac atttggagag taaaaaactt 4550 aaacacgaaa aaa 4563

<210> 260

<211> 802

<212> PRT

<213> Homo sapiens

<400> 260

Met Ala Arg Gly Arg Arg Ala Trp Leu Ser Val Leu Leu Gly
1 5 10 15

Leu Val Leu Gly Phe Val Leu Ala Ser Arg Leu Val Leu Pro Arg
20 25 30

Ala Ser Glu Leu Lys Arg Ala Gly Pro Arg Arg Arg Ala Ser Pro 35 40 45

Glu Gly Cys Arg Ser Gly Gln Ala Ala Ala Ser Gln Ala Gly Gly 50 55 60

Ala Arg Gly Asp Ala Arg Gly Ala Gln Leu Trp Pro Pro Gly Ser
65 70 75

Asp Pro Asp Gly Gly Pro Arg Asp Arg Asn Phe Leu Phe Val Gly 80 85 90

Val Met Thr Ala Gln Lys Tyr Leu Gln Thr Arg Ala Val Ala Ala 95 100 105

Tyr Arg Thr Trp Ser Lys Thr Ile Pro Gly Lys Val Gln Phe Phe 110 115 120

Ser Ser Glu Gly Ser Asp Thr Ser Val Pro Ile Pro Val Val Pro
125 130 135

Leu Arg Gly Val Asp Asp Ser Tyr Pro Pro Gln Lys Lys Ser Phe 140 145 150

Met Met Leu Lys Tyr Met His Asp His Tyr Leu Asp Lys Tyr Glu 155 160 165

Trp Phe Met Arg Ala Asp Asp Asp Val Tyr Ile Lys Gly Asp Arg

Leu Glu Asn Phe Leu Arg Ser Leu Asn Ser Ser Glu Pro Leu Phe 185 190 195

Leu Gly Gln Thr Gly Leu Gly Thr Thr Glu Glu Met Gly Lys Leu 200 205 210

Ala Leu Glu Pro Gly Glu Asn Phe Cys Met Gly Gly Pro Gly Val

Ile Met Ser Arg Glu Val Leu Arg Arg Met Val Pro His Ile Gly 230 235 240

Lys Cys Leu Arg Glu Met Tyr Thr Thr His Glu Asp Val Glu Val Gly Arg Cys Val Arg Arg Phe Ala Gly Val Gln Cys Val Trp Ser Tyr Glu Met Arg Gln Leu Phe Tyr Glu Asn Tyr Glu Gln Asn Lys Lys Gly Tyr Ile Arg Asp Leu His Asn Ser Lys Ile His Gln Ala Ile Thr Leu His Pro Asn Lys Asn Pro Pro Tyr Gln Tyr Arg Leu His Ser Tyr Met Leu Ser Arg Lys Ile Ser Glu Leu Arg His Arg Thr Ile Gln Leu His Arg Glu Ile Val Leu Met Ser Lys Tyr Ser Asn Thr Glu Ile His Lys Glu Asp Leu Gln Leu Gly Ile Pro Pro Ser Phe Met Arg Phe Gln Pro Arg Gln Arg Glu Glu Ile Leu Glu Trp Glu Phe Leu Thr Gly Lys Tyr Leu Tyr Ser Ala Val Asp Gly Gln Pro Pro Arg Arg Gly Met Asp Ser Ala Gln Arg Glu Ala Leu Asp Asp Ile Val Met Gln Val Met Glu Met Ile Asn Ala Asn Ala Lys Thr Arg Gly Arg Ile Ile Asp Phe Lys Glu Ile Gln Tyr Gly Tyr Arg Arg Val Asn Pro Met Tyr Gly Ala Glu Tyr Ile Leu Asp Leu Leu Leu Tyr Lys Lys His Lys Gly Lys Lys Met Thr Val Pro Val Arg Arg His Ala Tyr Leu Gln Gln Thr Phe Ser Lys Ile Gln Phe Val Glu His Glu Glu Leu Asp Ala Gln Glu Leu Ala Lys Arg Ile Asn Gln Glu Ser Gly Ser Leu Ser Phe Leu Ser Asn Ser Leu Lys Lys Leu Val Pro Phe Gln Leu Pro Gly Ser Lys Ser Glu 525 515 His Lys Glu Pro Lys Asp Lys Lys Ile Asn Ile Leu Ile Pro Leu

				530					535					540
Ser	Gly	Arg	Phe	Asp 545	Met	Phe	Val	Arg	Phe 550	Met	Gly	Asn	Phe	Glu 555
Lys	Thr	Cys	Leu	Ile 560	Pro	Asn	Gln	Asn	Val 565	Lys	Leu	Val	Val	Leu 570
Leu	Phe	Asn	Ser	Asp 575	Ser	Asn	Pro	Asp	Lys 580	Ala	Lys	Gln	Val	Glu 585
Leu	Met	Arg	Asp	Tyr 590	Arg	Ile	Lys	Tyr	Pro 595	Lys	Ala	Asp	Met	Gln 600
Ile	Leu	Pro	Val	Ser 605	Gly	Glu	Phe	Ser	Arg 610	Ala	Leu	Ala	Leu	Glu 615
Val	Gly	Ser	Ser	Gln 620	Phe	Asn	Asn	Glu	Ser 625	Leu	Leu	Phe	Phe	Cys 630
Asp	Val	Asp	Leu	Val 635	Phe	Thr	Thr	Glu	Phe 640	Leu	Gln	Arg	Cys	Arg 645
Ala	Asn	Thr	Val	Leu 650	Gly	Gln	Gln	Ile	Tyr 655	Phe	Pro	Ile	Ile	Phe 660
Ser	Gln	Tyr	Asp	Pro 665	Lys	Ile	Val	Tyr	Ser 670	Gly	Lys	Val	Pro	Ser 675
Asp	Asn	His	Phe	Ala 680	Phe	Thr	Gln	Lys	Thr 685	Gly	Phe	Trp	Arg	Asn 690
Tyr	Gly	Phe	Gly	Ile 695	Thr	Cys	Ile	Tyr	Lys 700	Gly	Asp	Leu	Val	Arg 705
Val	Gly	Gly	Phe	Asp 710	Val	Ser	Ile	Gln	Gly 715	Trp	Gly	Leu	Glu	Asp 720
Val	Asp	Leu	Phe	Asn 725	Lys	Val	Val	Gln	Ala 730	Gly	Leu	Lys	Thr	Phe 735
Arg	Ser	Gln	Glu	Val 740	Gly	Val	Val	His	Val 745	His	His	Pro	Val	Phe 750
Cys	Asp	Pro	Asn	Leu 755	Asp	Pro	Lys	Gln	Tyr 760	Lys	Met	Суз	Leu	Gly 765
Ser	Lys	Ala	Ser	Thr 770	Tyr	Gly	Ser	Thr	Gln 775	Gln	Leu	Ala	Glu	Met 780
Trp	Leu	Glu	Lys	Asn 785	Asp	Pro	Ser	Tyr	Ser 790	Lys	Ser	Ser	Asn	Asn 795
Asn	Gly	Ser	Val	Arg 800	Thr	Ala								
<210	> 261	L												

<210> 261 <211> 24

```
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 261
gtgccactac ggggtgtgga cgac 24
<210> 262
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 262
tcccatttct tccgtggtgc ccag 24
<210> 263
<211> 46
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-46
<223> Synthetic construct.
<400> 263
ccagaagaag tccttcatga tgctcaagta catgcacgac cactac 46
<210> 264
<211> 1419
<212> DNA
<213> Homo sapiens
<400> 264
ggacaaccgt tgctgggtgt cccagggcct gaggcaggac ggtactccgc 50
tgacaccttc cctttcggcc ttgaggttcc cagcctggtg gccccaggac 100
gttccggtcg catggcagag tgctacggac gacgcctatg aagcccttag 150
 tccttctagt tgcgcttttg ctatggcctt cgtctgtgcc ggcttatccg 200
agcataactg tgacacctga tgaagagcaa aacttgaatc attatataca 250
agttttagag aacctagtac gaagtgttcc ctctggggag ccaggtcgtg 300
agaaaaaatc taactctcca aaacatgttt attctatagc atcaaaggga 350
tcaaaattta aggagctagt tacacatgga gacgcttcaa ctgagaatga 400
```

tgttttaacc aatcctatca gtgaagaaac tacaactttc cctacaggag 450 gcttcacacc ggaaatagga aagaaaaaac acacggaaag taccccattc 500 tggtcgatca aaccaaacaa tgtttccatt gttttgcatq cagaggaacc 550 ttatattgaa aatgaagagc cagagccaga gccggagcca gctgcaaaac 600 aaactgaggc accaagaatg ttgccagttg ttactgaatc atctacaagt 650 ccatatgtta cctcatacaa gtcacctgtc accactttag ataagagcac 700 tggcattgag atctctacag aatcagaaga tgttcctcag ctctcaggtg 750 aaactgcgat agaaaaaccc gaagagtttg gaaagcaccc agagagttgg 800 aataatgatg acattttgaa aaaaatttta gatattaatt cacaagtgca 850 acaggcactt cttagtgaca ccagcaaccc agcatataga gaagatattg 900 aagcctctaa agatcaccta aaacgaagcc ttgctctagc agcagcagca 950 gaacataaat taaaaacaat gtataagtcc cagttattgc cagtaggacg 1000 aacaagtaat aaaattgatg acatcgaaac tgttattaac atgctgtgta 1050 attctagatc taaactctat gaatatttag atattaaatg tgttccacca 1100 gagatgagag aaaaagctgc tacagtattc aatacattaa aaaatatgtg 1150 tagatcaagg agagtcacag ccttattaaa agtttattaa acaataatat 1200 aaaaatttta aacctacttg atattccata acaaagctga tttaagcaaa 1250 ctgcattttt tcacaggaga aataatcata ttcgtaattt caaaagttgt 1300 ataaaaatat tttctattgt agttcaaatg tgccaacatc tttatgtgtc 1350 atgtgttatg aacaattttc atatgcacta aaaacctaat ttaaaataaa 1400 attttggttc aggaaaaaa 1419

<210> 265

<211> 350

<212> PRT

<213> Homo sapiens

<400> 265

Met Lys Pro Leu Val Leu Leu Val Ala Leu Leu Trp Pro Ser 1 5 10 15

Ser Val Pro Ala Tyr Pro Ser Ile Thr Val Thr Pro Asp Glu Glu 20 25 30

Gln Asn Leu Asn His Tyr Ile Gln Val Leu Glu Asn Leu Val Arg
35 40 45

Ser Val Pro Ser Gly Glu Pro Gly Arg Glu Lys Lys Ser Asn Ser

				50					55					60
Pro	Lys	His	Val	Tyr 65	Ser	Ile	Ala	Ser	Lys 70	Gly	Ser	Lys	Phe	Lys 75
Glu	Leu	Val	Thr	His 80	Gly	Asp	Ala	Ser	Thr 85	Glu	Asn	Asp	Val	Leu 90
Thr	Asn	Pro	Ile	Ser 95	Glu	Glu	Thr	Thr	Thr 100	Phe	Pro	Thr	Gly	Gly 105
Phe	Thr	Pro	Glu	Ile 110	Gly	Lys	Lys	Lys	His 115	Thr	Glu	Ser	Thr	Pro 120
Phe	Trp	Ser	Ile	Lys 125	Pro	Asn	Asn	Val	Ser 130	Ile	Val	Leu	His	Ala 135
Glu	Glu	Pro	Tyr	Ile 140	Glu	Asn	Glu	Glu	Pro 145	Glu	Pro	Glu	Pro	Glu 150
Pro	Ala	Ala	Lys	Gln 155	Thr	Glu	Ala	Pro	Arg 160	Met	Leu	Pro	Val	Val 165
Thr	Glu	Ser	Ser	Thr 170	Ser	Pro	Tyr	Val	Thr 175	Ser	Tyr	Lys	Ser	Pro 180
Val	Thr	Thr	Leu	Asp 185	Lys	Ser	Thr	Gly	Ile 190	Glu	Ile	Ser	Thr	Glu 195
Ser	Glu	Asp	Val	Pro 200	Gln	Leu	Ser	Gly	Glu 205	Thr	Ala	Ile	Glu	Lys 210
Pro	Glu	Glu	Phe	Gly 215	Lys	His	Pro	Glu	Ser 220	Trp	Asn	Asn	Asp	Asp 225
Ile	Leu	Lys	Lys	Ile 230	Leu	Asp	Ile	Asn	Ser 235	Gln	Val	Gln	Gln	Ala 240
Leu	Leu	Ser	Asp	Thr 245	Ser	Asn	Pro	Ala	Tyr 250	Arg	Glu	Asp	Ile	Glu 255
Ala	Ser	Lys	Asp	His 260	Leu	Lys	Arg	Ser	Leu 265	Ala	Leu	Ala	Ala	Ala 270
Ala	Glu	His	Lys	Leu 275	Lys	Thr	Met	Tyr	Lys 280	Ser	Gln	Leu	Leu	Pro 285
Val	Gly	Arg	Thr	Ser 290	Asn	Lys	Ile	Asp	Asp 295	Ile	Glu	Thr	Val	Ile 300
Asn	Met	Leu	Cys	Asn 305	Ser	Arg	Ser	Lys	Leu 310	Tyr	Glu	Tyr	Leu	Asp 315
Ile	Lys	Cys	Val	Pro 320	Pro	Glu	Met	Arg	Glu 325	Lys	Ala	Ala	Thr	Val 330
Phe	Asn	Thr	Leu	Lys 335	Asn	Met	Cys	Arg	Ser 340	Arg	Arg	Val	Thr	Ala 345

## Leu Leu Lys Val Tyr 350

<210> 266

<211> 2403

<212> DNA

<213> Homo sapiens

<400> 266

cggctcgagc ggctcgagtg aagagcctct ccacggctcc tgcgcctgag 50 acagctggcc tgacctccaa atcatccatc cacccctgct gtcatctgtt 100 ttcatagtgt gagatcaacc cacaggaata tccatggctt ttgtgctcat 150 tttggttctc agtttctacg agctggtgtc aggacagtgg caagtcactg 200 gaccgggcaa gtttgtccag gccttggtgg gggaggacgc cgtgttctcc 250 tgctccctct ttcctgagac cagtgcagag gctatggaag tgcggttctt 300 caggaatcag ttccatgctg tggtccacct ctacagagat ggggaagact 350 gggaatctaa gcagatgcca cagtatcgag ggagaactga gtttgtgaag 400 gactccattg caggggggg tgtctctcta aggctaaaaa acatcactcc 450 ctcggacatc ggcctgtatg ggtgctggtt cagttcccaq atttacgatg 500 aggaggccac ctgggagctg cgggtggcag cactgggctc acttectete 550 atttccatcg tgggatatgt tgacggaggt atccagttac tctgcctgtc 600 ctcaggctgg ttcccccagc ccacagccaa gtggaaaggt ccacaaggac 650 aggatttgtc ttcagactcc agagcaaatg cagatgggta cagcctgtat 700 gatgtggaga tctccattat agtccaggaa aatgctggga qcatattgtg 750 ttccatccac cttgctgagc agagtcatga ggtggaatcc aaggtattga 800 taggagagac gtttttccag ccctcacctt ggcgcctggc ttctatttta 850 ctcgggttac tctgtggtgc cctgtgtggt gttgtcatgg ggatgataat 900 tgttttcttc aaatccaaag ggaaaatcca ggcggaactg gactggagaa 950 gaaagcacgg acaggcagaa ttgagagacg cccggaaaca cgcagtggag 1000 gtgactctgg atccagagac ggctcacccg aagctctgcg tttctgatct 1050 gaaaactgta acccatagaa aagctcccca ggaggtgcct cactctgaga 1100 agagatttac aaggaagagt gtggtggctt ctcagggttt ccaagcaggg 1150 agacattact gggaggtgga cgtgggacaa aatgtagggt ggtatgtggg 1200 agtgtgtcgg gatgacgtag acagggggaa gaacaatgtg actttgtctc 1250

ccaacaatgg gtattgggtc ctcagactga caacagaaca tttgtatttc 1300 acattcaatc cccattttat cagcetecee eccageacce etectacaeg 1350 agtaggggtc ttcctggact atgagggtgg gaccatctcc ttcttcaata 1400 caaatgacca gtcccttatt tataccctgc tgacatgtca gtttgaaggc 1450 ttgttgagac cctatatcca gcatgcgatg tatgacgagg aaaaggggac 1500 tcccatattc atatgtccag tgtcctgggg atgagacaga gaagaccctg 1550 cttaaagggc cccacaccac agacccagac acagccaagg gagagtgctc 1600 ccgacaggtg gccccagett cctctccgga gcctgcgcac agagagtcac 1650 gcccccact ctcctttagg gagctgaggt tcttctgccc tgagccctgc 1700 agcagcggca gtcacagctt ccagatgagg ggggattggc ctgaccctgt 1750 gggagtcaga agccatggct gccctgaagt ggggacggaa tagactcaca 1800 ttaggtttag tttgtgaaaa ctccatccag ctaagcgatc ttgaacaagt 1850 cacaacctcc caggeteete atttgetagt caeggacagt gatteetgee 1900 tcacaggtga agattaaaga gacaacgaat gtgaatcatg cttgcaggtt 1950 tgagggcaca gtgtttgcta atgatgtgtt tttatattat acattttccc 2000 accataaact ctgtttgctt attccacatt aatttacttt tctctatacc 2050 aaatcaccca tggaatagtt attgaacacc tgctttgtga ggctcaaaga 2100 ataaagagga ggtaggattt ttcactgatt ctataagccc agcattacct 2150 gataccaaaa ccaggcaaag aaaacagaag aagaggaagg aaaactacag 2200 gtccatatcc ctcattaaca cagacacaaa aattctaaat aaaattttaa 2250 caaattaaac taaacaatat atttaaagat gatatataac tactcagtgt 2300 ggtttgtccc acaaatgcag agttggttta atatttaaat atcaaccagt 2350 aaa 2403

<210> 267

<211> 466

<212> PRT

<213> Homo sapiens

<400> 267

Met Ala Phe Val Leu Ile Leu Val Leu Ser Phe Tyr Glu Leu Val 1 5 10 15

Ser Gly Gln Trp Gln Val Thr Gly Pro Gly Lys Phe Val Gln Ala

				20					25					30
Leu	Val	Gly	Glu	Asp 35	Ala	Val	Phe	Ser	Cys 40	Ser	Leu	Phe	Pro	Glu 45
Thr	Ser	Ala	Glu	Ala 50	Met	Glu	Val	Arg	Phe 55	Phe	Arg	Asn	Gln	Phe 60
His	Ala	Val	Val	His 65	Leu	Tyr	Arg	Asp	Gly 70	Glu	Asp	Trp	Glu	Ser 75
Lys	Gln	Met	Pro	Gln 80	Tyr	Arg	Gly	Arg	Thr 85	Glu	Phe	Val	Lys	Asp 90
Ser	Ile	Ala	Gly	Gly 95	Arg	Val	Ser	Leu	Arg 100	Leu	Lys	Asn	Ile	Thr 105
Pro	Ser	Asp	Ile	Gly 110	Leu	Tyr	Gly	Суз	Trp 115	Phe	Ser	Ser	Gln	Ile 120
Tyr	Asp	Glu	Glu	Ala 125	Thr	Trp	Glu	Leu	Arg 130	Val	Ala	Ala	Leu	Gly 135
Ser	Leu	Pro	Leu	Ile 140	Ser	Ile	Val	Gly	Tyr 145	Val	Asp	Gly	Gly	Ile 150
Gln	Leu	Leu	Cys	Leu 155	Ser	Ser	Gly	Trp	Phe 160	Pro	Gln	Pro	Thr	Ala 165
Lys	Trp	Lys	Gly	Pro 170	Gln	Gly	Gln	Asp	Leu 175	Ser	Ser	Asp	Ser	Arg 180
Ala	Asn	Ala	Asp	Gly 185	Tyr	Ser	Leu	Tyr	Asp 190	Val	Glu	Ile	Ser	Ile 195
·Ile	Val	Gln	Glu	Asn 200	Ala	Gly	Ser	Ile	Leu 205	Cys	Ser	Ile	His	Leu 210
Ala	Glu	Gln	Ser	His 215	Glu	Val	Glu	Ser	Lys 220	Val	Leu	Ile	Gly	Glu 225
Thr	Phe	Phe	Gln	Pro 230	Ser	Pro	Trp	Arg	Leu 235	Ala	Ser	Ile	Leu	Leu 240
Gly	Leu	Leu	Cys	Gly 245	Ala	Leu	Cys	Gly	Val 250	Val	Met	Gly	Met	Ile 255
Ile	Val	Phe	Phe	Lys 260	Ser	Lys	Gly	Lys	Ile 265	Gln	Ala	Glu	Leu	Asp 270
Trp	Arg	Arg	Lys	His 275	Gly	Gln	Ala	Glu	Leu 280	Arg	Asp	Ala	Arg	Lys 285
His	Ala	Val	Glu	Val 290	Thr	Leu	Asp	Pro	Glu 295	Thr	Ala	His	Pro	Lys 300
Leu	Cys	Val	Ser	Asp 305	Leu	Lys	Thr	Val	Thr 310	His	Arg	Lys	Ala	Pro 315

```
Gln Glu Val Pro His Ser Glu Lys Arg Phe Thr Arg Lys Ser Val
Val Ala Ser Gln Gly Phe Gln Ala Gly Arg His Tyr Trp Glu Val
                335
                                     340
Asp Val Gly Gln Asn Val Gly Trp Tyr Val Gly Val Cys Arg Asp
Asp Val Asp Arg Gly Lys Asn Asn Val Thr Leu Ser Pro Asn Asn
Gly Tyr Trp Val Leu Arg Leu Thr Thr Glu His Leu Tyr Phe Thr
Phe Asn Pro His Phe Ile Ser Leu Pro Pro Ser Thr Pro Pro Thr
Arg Val Gly Val Phe Leu Asp Tyr Glu Gly Gly Thr Ile Ser Phe
                                                         420
                410
                                     415
Phe Asn Thr Asn Asp Gln Ser Leu Ile Tyr Thr Leu Leu Thr Cys
                                                         435
                425
                                     430
Gln Phe Glu Gly Leu Leu Arg Pro Tyr Ile Gln His Ala Met Tyr
                                                         450
Asp Glu Glu Lys Gly Thr Pro Ile Phe Ile Cys Pro Val Ser Trp
                                    460
Gly
```

<210> 268 <211> 2103

<212> DNA

<213> Homo sapiens

<400> 268

ccttcacagg actcttcatt gctggttggc aatgatgtat cggccagatg 50 tggtgagggc taggaaaaga gtttgttggg aaccctgggt tatcggcctc 100 gtcatcttca tatccctgat tgtcctggca gtgtgcattg gactcactgt 150 tcattatgtg agatataatc aaaagaagac ctacaattac tatagcacat 200 tgtcatttac aactgacaaa ctatatgctg agtttggcag agaggcttct 250 aacaatttta cagaaatgag ccagagactt gaatcaatgg tgaaaaatgc 300 attttataaa tctccattaa gggaagaatt tgtcaagtct caggttatca 350 agttcagtca acagaagcat ggagtgttgg ctcatatgct gttgatttgt 400 agatttcact ctactgagga tcctgaaact gtagataaaa ttgttcaact 450 tgttttacat gaaaagctgc aagatgctgt aggaccccct aaagtagatc 500

ctcactcagt taaaattaaa aaaatcaaca agacagaaac agacagctat 550 ctaaaccatt gctgcggaac acgaagaagt aaaactctag gtcagagtct 600 caggatcgtt ggtgggacag aagtagaaga gggtgaatgg ccctggcagg 650 ctagcctgca gtgggatggg agtcatcgct gtggagcaac cttaattaat 700 gccacatggc ttgtgagtgc tgctcactgt tttacaacat ataagaaccc 750 tgccagatgg actgcttcct ttggagtaac aataaaacct tcgaaaatga 800 aacggggtct ccggagaata attgtccatg aaaaatacaa acacccatca 850 catgactatg atattctct tgcagagctt tctagccctg ttccctacac 900 aaatgcagta catagagttt gtctccctga tgcatcctat gagtttcaac 950 caggtgatgt gatgtttgtg acaggatttg gagcactgaa aaatgatggt 1000 tacagtcaaa atcatcttcg acaagcacag gtgactctca tagacgctac 1050 aacttgcaat gaacctcaag cttacaatga cgccataact cctagaatgt 1100 tatgtgctgg ctccttagaa ggaaaaacag atgcatgcca gggtgactct 1150 ggaggaccac tggttagttc agatgctaga gatatctggt accttgctgg 1200 aatagtgagc tggggagatg aatgtgcgaa acccaacaag cctggtgttt 1250 atactagagt tacggccttg cgggactgga ttacttcaaa aactggtatc 1300 taagagacaa aagcctcatg gaacagataa cattttttt tgttttttgg 1350 gtgtggaggc catttttaga gatacagaat tggagaagac ttgcaaaaca 1400 gctagatttg actgatctca ataaactgtt tgcttgatgc atgtattttc 1450 ttcccagctc tgttccgcac gtaagcatcc tgcttctgcc agatcaactc 1500 tgtcatctgt gagcaatagt tgaaacttta tgtacataga gaaatagata 1550 atacaatatt acattacagc ctgtattcat ttgttctcta gaagttttgt 1600 cagaattttg acttgttgac ataaatttgt aatgcatata tacaatttga 1650 agcactcctt ttcttcagtt cctcagctcc tctcatttca gcaaatatcc 1700 attttcaagg tgcagaacaa ggagtgaaag aaaatataag aagaaaaaaa 1750 tcccctacat tttattggca cagaaaagta ttaggtgttt ttcttagtgg 1800 aatattagaa atgatcatat tcattatgaa aggtcaagca aagacagcag 1850 aataccaatc acttcatcat ttaggaagta tgggaactaa gttaaggaag 1900 tccagaaaga agccaagata tatccttatt ttcatttcca aacaactact 1950

atgataaatg tgaagaagat tctgttttt tgtgacctat aataattata 2000 caaacttcat gcaatgtact tgttctaagc aaattaaagc aaatattat 2050 ttaacattgt tactgaggat gtcaacatat aacaataaaa tataaatcac 2100 cca 2103

<210> 269

<211> 423

<212> PRT

<213> Homo sapiens

<400> 269

Met Met Tyr Arg Pro Asp Val Val Arg Ala Arg Lys Arg Val Cys
1 5 10 15

Trp Glu Pro Trp Val Ile Gly Leu Val Ile Phe Ile Ser Leu Ile 20 25 30

Val Leu Ala Val Cys Ile Gly Leu Thr Val His Tyr Val Arg Tyr 35 40 45

Asn Gln Lys Lys Thr Tyr Asn Tyr Tyr Ser Thr Leu Ser Phe Thr 50 55 60

Thr Asp Lys Leu Tyr Ala Glu Phe Gly Arg Glu Ala Ser Asn Asn 65 70 75

Phe Thr Glu Met Ser Gln Arg Leu Glu Ser Met Val Lys Asn Ala 80 85 90

Phe Tyr Lys Ser Pro Leu Arg Glu Glu Phe Val Lys Ser Gln Val 95 100 105

Ile Lys Phe Ser Gln Gln Lys His Gly Val Leu Ala His Met Leu 110 115 120

Leu Ile Cys Arg Phe His Ser Thr Glu Asp Pro Glu Thr Val Asp 125 130 135

Lys Ile Val Gln Leu Val Leu His Glu Lys Leu Gln Asp Ala Val 140 145 150

Gly Pro Pro Lys Val Asp Pro His Ser Val Lys Ile Lys Lys Ile 155 160 165

Asn Lys Thr Glu Thr Asp Ser Tyr Leu Asn His Cys Cys Gly Thr 170 175 180

Arg Arg Ser Lys Thr Leu Gly Gln Ser Leu Arg Ile Val Gly Gly 185 190 195

Thr Glu Val Glu Glu Gly Glu Trp Pro Trp Gln Ala Ser Leu Gln 200 205 210

Trp Asp Gly Ser His Arg Cys Gly Ala Thr Leu Ile Asn Ala Thr 215 220 225

```
Trp Leu Val Ser Ala Ala His Cys Phe Thr Thr Tyr Lys Asn Pro
                                    235
Ala Arg Trp Thr Ala Ser Phe Gly Val Thr Ile Lys Pro Ser Lys
Met Lys Arg Gly Leu Arg Arg Ile Ile Val His Glu Lys Tyr Lys
His Pro Ser His Asp Tyr Asp Ile Ser Leu Ala Glu Leu Ser Ser
Pro Val Pro Tyr Thr Asn Ala Val His Arg Val Cys Leu Pro Asp
Ala Ser Tyr Glu Phe Gln Pro Gly Asp Val Met Phe Val Thr Gly
                                    310
                                                         315
Phe Gly Ala Leu Lys Asn Asp Gly Tyr Ser Gln Asn His Leu Arg
                                                         330
Gln Ala Gln Val Thr Leu Ile Asp Ala Thr Thr Cys Asn Glu Pro
                335
                                    340
Gln Ala Tyr Asn Asp Ala Ile Thr Pro Arg Met Leu Cys Ala Gly
                350
                                    355
                                                         360
Ser Leu Glu Gly Lys Thr Asp Ala Cys Gln Gly Asp Ser Gly Gly
                                    370
                                                         375
Pro Leu Val Ser Ser Asp Ala Arg Asp Ile Trp Tyr Leu Ala Gly
                                    385
                                                         390
Ile Val Ser Trp Gly Asp Glu Cys Ala Lys Pro Asn Lys Pro Gly
                                    400
Val Tyr Thr Arg Val Thr Ala Leu Arg Asp Trp Ile Thr Ser Lys
                410
                                                         420
                                    415
```

Thr Gly Ile

<210> 270

<211> 1170

<212> DNA

<213> Homo sapiens

<400> 270

gtcgaaggtt ataaaagctt ccagccaaac ggcattgaag ttgaagatac 50 aacctgacag cacagcctga gatcttgggg atccctcagc ctaacaccca 100 cagacgtcag ctggtggatt cccgctgcat caaggcctac ccactgtctc 150 catgctggc tctccctgcc ttctgtggct cctggccgtg accttcttgg 200 ttcccagagc tcagcccttg gcccctcaag actttgaaga agaggaggca 250

gatgagactg agacggcgtg gccgcctttg ccggctgtcc cctgcgacta 300 cgaccactgc cgacacctgc aggtgccctg caaggagcta cagagggtcg 350 ggccggcggc ctgcctgtgc ccaggactct ccagccccgc ccagccgccc 400 gaccegeege geatgggaga agtgegeatt geggeegaag agggeegege 450 agtggtccac tggtgtgccc ccttctcccc ggtcctccac tactggctgc 500 tgctttggga cggcagcgag gctgcgcaga aggggccccc gctgaacgct 550 acggtccgca gagccgaact gaaggggctg aagccagggg gcatttatgt 600 cgtttgcgta gtggccgcta acgaggccgg ggcaagccgc gtgccccagg 650 ctggaggaga gggcctcgag ggggccgaca tccctgcctt cgggccttgc 700 ageogeettg eggtgeegee caaceeeege actetggtee aegeggeegt 750 cggggtgggc acggccctgg ccctgctaag ctgtgccgcc ctggtgtggc 800 acttctgcct gcgcgatcgc tggggctgcc cgcgccgagc cgccgcccga 850 gccgcagggg cgctctgaaa ggggcctggg ggcatctcgg gcacagacag 900 ccccacctgg ggcgctcagc ctggcccccg ggaaagagga aaacccgctg 950 cctccaggga gggctggacg gcgagctggg agccagcccc aggctccagg 1000 gccacggcgg agtcatggtt ctcaggactg agcgcttgtt taggtccggt 1050 acttggcgct ttgtttcctg gctgaggtct gggaaggaat agaaaggggc 1100 ccccaatttt tttttaagcg gccagataat aaataatgta acctttgcgg 1150 ttaaaaaaaa aaaaaaaaa 1170

<210> 271

<211> 238

<212> PRT

<213> Homo sapiens

<400> 271

Met Leu Gly Ser Pro Cys Leu Leu Trp Leu Leu Ala Val Thr Phe
1 5 10 15

Leu Val Pro Arg Ala Gln Pro Leu Ala Pro Gln Asp Phe Glu Glu 20 25 30

Glu Glu Ala Asp Glu Thr Glu Thr Ala Trp Pro Pro Leu Pro Ala
35 40 45

Val Pro Cys Asp Tyr Asp His Cys Arg His Leu Gln Val Pro Cys
50 55 60

Lys Glu Leu Gln Arg Val Gly Pro Ala Ala Cys Leu Cys Pro Gly 65 70 75

```
Leu Ser Ser Pro Ala Gln Pro Pro Asp Pro Pro Arg Met Gly Glu
Val Arg Ile Ala Ala Glu Glu Gly Arg Ala Val His Trp Cys
Ala Pro Phe Ser Pro Val Leu His Tyr Trp Leu Leu Trp Asp
Gly Ser Glu Ala Ala Gln Lys Gly Pro Pro Leu Asn Ala Thr Val
Arg Arg Ala Glu Leu Lys Gly Leu Lys Pro Gly Gly Ile Tyr Val
                                    145
Val Cys Val Val Ala Ala Asn Glu Ala Gly Ala Ser Arg Val Pro
Gln Ala Gly Gly Glu Gly Leu Glu Gly Ala Asp Ile Pro Ala Phe
                                    175
Gly Pro Cys Ser Arg Leu Ala Val Pro Pro Asn Pro Arg Thr Leu
                                    190
Val His Ala Ala Val Gly Val Gly Thr Ala Leu Ala Leu Leu Ser
                200
                                    205
                                                        210
Cys Ala Ala Leu Val Trp His Phe Cys Leu Arg Asp Arg Trp Gly
                215
                                    220
                                                        225
Cys Pro Arg Arg Ala Ala Ala Arg Ala Ala Gly Ala Leu
                230
```

<210> 272 <211> 2397

<212> DNA

<213> Homo sapiens

<400> 272

agagaaagaa gcgtctccag ctgaagccaa tgcagccctc cggctctccg 50 cgaagaagtt ccctgccccg atgagccccc gccgtgcgtc cccgactatc 100 cccaggcggg cgtggggcac cgggcccagc gccgacgatc gctgccgttt 150 tgcccttggg agtaggatgt ggtgaaagga tggggcttct cccttacggg 200 gctcacaatg gccagagaag attccgtgaa gtgtctqcgc tgcctgctct 250 acgccctcaa tctgctcttt tggttaatgt ccatcagtgt gttggcagtt 300 tctgcttgga tgagggacta cctaaataat gttctcactt taactgcaga 350 aacgagggta gaggaagcag tcattttgac ttactttcct gtggttcatc 400 cggtcatgat tgctgtttqc tqtttcctta tcattqtqqq qatqttaqqa 450 tattgtggaa cggtgaaaag aaatctgttg cttcttgcat ggtactttgg 500

aagtttgctt gtcattttct gtgtagaact ggcttgtggc gtttggacat 550 atgaacagga acttatggtt ccagtacaat ggtcagatat ggtcactttg 600 aaaqccaqqa tgacaaatta tggattacct agatatcggt ggcttactca 650 tgcttggaat ttttttcaga gagagtttaa gtgctgtgga gtagtatatt 700 tcactgactg gttggaaatg acagagatgg actggcccc agattcctgc 750 tgtgttagag aattcccagg atgttccaaa caggcccacc aggaagatct 800 cagtgacctt tatcaagagg gttgtgggaa gaaaatgtat tcctttttga 850 gaggaaccaa acaactgcag gtgctgaggt ttctgggaat ctccattggg 900 gtgacacaaa tcctggccat gattctcacc attactctgc tctgggctct 950 gtattatgat agaagggagc ctgggacaga ccaaatgatg tccttgaaga 1000 atgacaactc tcagcacctg tcatgtccct cagtagaact gttgaaacca 1050 agcctgtcaa gaatctttga acacacatcc atggcaaaca gctttaatac 1100 acactttgag atggaggagt tataaaaaga aatgtcacag aagaaaacca 1150 caaacttgtt ttattggact tgtgaatttt tgagtacata ctatgtgttt 1200 cagaaatatg tagaaataaa aatgttgcca taaaataaca cctaagcata 1250 tactattcta tgctttaaaa tgaggatgga aaagtttcat gtcataagtc 1300 accacctgga caataattga tgcccttaaa atgctgaaga cagatgtcat 1350 acccactgtg tagcctgtgt atgactttta ctgaacacag ttatgttttg 1400 aggcagcatg gtttgattag catttccgca tccatgcaaa cgagtcacat 1450 atggtgggac tggagccata gtaaaggttg atttacttct accaactagt 1500 atataaagta ctaattaaat gctaacatag gaagttagaa aatactaata 1550 acttttatta ctcagcgatc tattcttctg atgctaaata aattatatat 1600 cagaaaactt tcaatattgg tgactaccta aatgtgattt ttgctggtta 1650 ctaaaatatt cttaccactt aaaagagcaa gctaacacat tgtcttaagc 1700 tgatcaggga ttttttgtat ataagtctgt gttaaatctg tataattcag 1750 tcgatttcag ttctgataat gttaagaata accattatga aaaggaaaat 1800 ttgtcctgta tagcatcatt atttttagcc tttcctgtta ataaagcttt 1850 actattctgt cctgggctta tattacacat ataactgtta tttaaatact 1900 taaccactaa ttttgaaaat taccagtgtg atacatagga atcattattc 1950

agaatgtagt ctggtcttta ggaagtatta ataagaaaat ttgcacataa 2000 cttagttgat tcagaaagga cttgtatgct gtttttctcc caaatgaaga 2050 ctctttttga cactaaacac tttttaaaaa gcttatcttt gccttctcca 2100 aacaagaagc aatagtctcc aagtcaatat aaattctaca gaaaatagtg 2150 ttcttttct ccagaaaaat gcttgtgaga atcattaaaa catgtgacaa 2200 tttagagatt ctttgttta tttcactgat taatatactg tggcaaatta 2250 cacagattat taaattttt tacaagagta tagtatattt atttgaaatg 2300 ggaaaagtgc attttactgt attttgtgta ttttgtttat ttccagaat 2350 atggaaagaa aattaaaatg tgtcaataaa tatttctag agagtaa 2397

<210> 273

<211> 305

<212> PRT

<213> Homo sapiens

<400> 273

Met Ala Arg Glu Asp Ser Val Lys Cys Leu Arg Cys Leu Leu Tyr 1 5 10 15

Ala Leu Asn Leu Leu Phe Trp Leu Met Ser Ile Ser Val Leu Ala 20 25 30

Val Ser Ala Trp Met Arg Asp Tyr Leu Asn Asn Val Leu Thr Leu 35 40 45

Thr Ala Glu Thr Arg Val Glu Glu Ala Val Ile Leu Thr Tyr Phe
50 55 60

Pro Val Val His Pro Val Met Ile Ala Val Cys Cys Phe Leu Ile 65 70 75

Ile Val Gly Met Leu Gly Tyr Cys Gly Thr Val Lys Arg Asn Leu 80 85 90

Leu Leu Leu Ala Trp Tyr Phe Gly Ser Leu Leu Val Ile Phe Cys 95 100 105

Val Glu Leu Ala Cys Gly Val Trp Thr Tyr Glu Gln Glu Leu Met 110 115 120

Val Pro Val Gln Trp Ser Asp Met Val Thr Leu Lys Ala Arg Met 125 130 135

Thr Asn Tyr Gly Leu Pro Arg Tyr Arg Trp Leu Thr His Ala Trp 140 145 150

Asn Phe Phe Gln Arg Glu Phe Lys Cys Cys Gly Val Val Tyr Phe 155 160 165

Thr Asp Trp Leu Glu Met Thr Glu Met Asp Trp Pro Pro Asp Ser

				170					175					180
Cys	Cys	Val	Arg	Glu 185	Phe	Pro	Gly	Cys	Ser 190	Lys	Gln	Ala	His	Gln 195
Glu	Asp	Leu	Ser	Asp 200	Leu	Tyr	Gln	Glu	Gly 205	Cys	Gly	Lys	Lys	Met 210
Tyr	Ser	Phe	Leu	Arg 215	Gly	Thr	Lys	Gln	Leu 220	Gln	Val	Leu	Arg	Phe 225
Leu	Gly	Ile	Ser	Ile 230	Gly	Val	Thr	Gln	Ile 235	Leu	Ala	Met	Ile	Leu 240
Thr	Ile	Thr	Leu	Leu 245	Trp	Ala	Leu	Tyr	Tyr 250	Asp	Arg	Arg	Glu	Pro 255
Gly	Thr	Asp	Gln	Met 260	Met	Ser	Leu	Lys	Asn 265	Asp	Asn	Ser	Gln	His 270
Leu	Ser	Cys	Pro	Ser 275	Val	Glu	Leu	Leu	Lys 280	Pro	Ser	Leu	Ser	Arg 285
Ile	Phe	Glu	His	Thr 290	Ser	Met	Ala	Asn	Ser 295	Phe	Asn	Thr	His	Phe 300
Glu	Met	Glu	Glu	Leu 305										
<210 <211														

<210> 274 <211> 2063 <212> DNA <213> Homo sapiens

<400> 274
gagagaggca gcagcttgct cagcggacaa ggatgctggg cgtgagggac 50

caaggcctgc cctgcactcg ggcctcctcc agccagtgct gaccagggac 100

ttctgacctg ctggccagcc aggacctgtg tggggaggcc ctcctgctgc 150

cttggggtga caatctcagc tccaggctac aggagaccg ggaggatcac 200

agagccagca tgttacagga tcctgacagt gatcaacctc tgaacagcct 250

cgatgtcaaa cccctgcgca aaccccgtat ccccatggag accttcagaa 300

aggtggggat ccccatcatc atagcactac tgagcctggc gagtatcatc 350

attgtggttg tcctcatcaa ggtgattctg gataaatact acttcctctg 400

cgggcagcct ctccacttca tcccgaggaa gcagctgtgt gacggagac 450

tggactgtcc cttggggag gacgaggac actgtgtcaa gagcttccc 500

gaagggcctg cagtggcagt ccgcctctcc aaggaccgat ccacactgca 550

ggtgctggac tcggccacag ggaactggtt ctctgcctgt ttcgacaact 600

tcacagaagc tctcgctgag acagcctgta ggcagatggg ctacagcaga 650 gctgtggaga ttggcccaga ccaggatctg gatgttgttg aaatcacaga 700 aaacagccag gagcttcgca tgcggaactc aagtgggccc tgtctctcag 750 gctccctggt ctccctgcac tgtcttgcct gtgggaagag cctgaagacc 800 ccccgtgtgg tgggtgggga ggaggcctct gtggattctt ggccttggca 850 ggtcagcatc cagtacgaca aacagcacgt ctgtggaggg agcatcctgg 900 accccactg ggtcctcacg gcagcccact gcttcaggaa acataccgat 950 gtgttcaact ggaaggtgcg ggcaggctca gacaaactgg gcagcttccc 1000 atccctggct gtggccaaga tcatcatcat tgaattcaac cccatgtacc 1050 ccaaagacaa tgacatcgcc ctcatgaagc tgcagttccc actcactttc 1100 tcaggcacag tcaggcccat ctgtctgccc ttctttgatg aggagctcac 1150 tccagccacc ccactctgga tcattggatg gggctttacg aagcagaatg 1200 gagggaagat gtctgacata ctgctgcagg cgtcagtcca ggtcattgac 1250 agcacacggt gcaatgcaga cgatgcgtac cagggggaag tcaccgagaa 1300 gatgatgtgt gcaggcatcc cggaaggggg tgtggacacc tgccagggtg 1350 acagtggtgg gcccctgatg taccaatctg accagtggca tgtggtgggc 1400 atcgttagct ggggctatgg ctgcgggggc ccgagcaccc caggagtata 1450 caccaaggtc tcagcctatc tcaactggat ctacaatgtc tggaaggctg 1500 agetgtaatg etgetgeece tttgeagtge tgggageege tteetteetg 1550 ccctgcccac ctggggatcc cccaaagtca gacacagagc aagagtcccc 1600 ttgggtacac ccctctgccc acagcctcag catttcttgg agcagcaaag 1650 ggcctcaatt cctgtaagag accctcgcag cccagaggcg cccagaggaa 1700 gtcagcagcc ctagctcggc cacacttggt gctcccagca tcccagggag 1750 agacacagec cactgaacaa ggtctcaggg gtattgctaa gccaagaagg 1800 aactttccca cactactgaa tggaagcagg ctgtcttgta aaagcccaga 1850 tcactgtggg ctggagagga gaaggaaagg gtctgcgcca gccctgtccg 1900 tcttcaccca tccccaagcc tactagagca agaaaccagt tgtaatataa 1950 aatgcactgc cctactgttg gtatgactac cgttacctac tgttgtcatt 2000 gttattacag ctatggccac tattattaaa gagctgtgta acatctctgg 2050

## caaaaaaaa aaa 2063

- <210> 275
- <211> 432
- <212> PRT
- <213> Homo sapiens

## <400> 275

- Met Leu Gln Asp Pro Asp Ser Asp Gln Pro Leu Asn Ser Leu Asp 1 5 10 15
- Val Lys Pro Leu Arg Lys Pro Arg Ile Pro Met Glu Thr Phe Arg
- Lys Val Gly Ile Pro Ile Ile Ile Ala Leu Leu Ser Leu Ala Ser 35 40 45
- Ile Ile Ile Val Val Leu Ile Lys Val Ile Leu Asp Lys Tyr 50 55 60
- Tyr Phe Leu Cys Gly Gln Pro Leu His Phe Ile Pro Arg Lys Gln 65 70 75
- Leu Cys Asp Gly Glu Leu Asp Cys Pro Leu Gly Glu Asp Glu Glu 80 85 90
- His Cys Val Lys Ser Phe Pro Glu Gly Pro Ala Val Ala Val Arg 95 100 105
- Leu Ser Lys Asp Arg Ser Thr Leu Gln Val Leu Asp Ser Ala Thr 110 115 120
- Gly Asn Trp Phe Ser Ala Cys Phe Asp Asn Phe Thr Glu Ala Leu
  125 130 135
- Ala Glu Thr Ala Cys Arg Gln Met Gly Tyr Ser Arg Ala Val Glu 140 145 150
- Ile Gly Pro Asp Gln Asp Leu Asp Val Val Glu Ile Thr Glu Asn 155 160 165
- Ser Gln Glu Leu Arg Met Arg Asn Ser Ser Gly Pro Cys Leu Ser
- Gly Ser Leu Val Ser Leu His Cys Leu Ala Cys Gly Lys Ser Leu
  185 190 195
- Lys Thr Pro Arg Val Val Gly Glu Glu Ala Ser Val Asp Ser 200 205 210
- Trp Pro Trp Gln Val Ser Ile Gln Tyr Asp Lys Gln His Val Cys 215 220 225
- Gly Gly Ser Ile Leu Asp Pro His Trp Val Leu Thr Ala Ala His
- Cys Phe Arg Lys His Thr Asp Val Phe Asn Trp Lys Val Arg Ala 245 250 255

```
Gly Ser Asp Lys Leu Gly Ser Phe Pro Ser Leu Ala Val Ala Lys
Ile Ile Ile Glu Phe Asn Pro Met Tyr Pro Lys Asp Asn Asp
Ile Ala Leu Met Lys Leu Gln Phe Pro Leu Thr Phe Ser Gly Thr
Val Arg Pro Ile Cys Leu Pro Phe Phe Asp Glu Glu Leu Thr Pro
Ala Thr Pro Leu Trp Ile Ile Gly Trp Gly Phe Thr Lys Gln Asn
Gly Gly Lys Met Ser Asp Ile Leu Leu Gln Ala Ser Val Gln Val
                335
                                    340
Ile Asp Ser Thr Arg Cys Asn Ala Asp Asp Ala Tyr Gln Gly Glu
                                                         360
Val Thr Glu Lys Met Met Cys Ala Gly Ile Pro Glu Gly Gly Val
                365
                                    370
                                                         375
Asp Thr Cys Gln Gly Asp Ser Gly Gly Pro Leu Met Tyr Gln Ser
                                    385
                                                         390
Asp Gln Trp His Val Val Gly Ile Val Ser Trp Gly Tyr Gly Cys
                395
Gly Gly Pro Ser Thr Pro Gly Val Tyr Thr Lys Val Ser Ala Tyr
                410
                                    415
                                                         420
Leu Asn Trp Ile Tyr Asn Val Trp Lys Ala Glu Leu
```

<210> 276 <211> 3143

<212> DNA

<213> Homo sapiens

<400> 276

gggctgaggc actgagagac cggaaagcct ggcattccag agggagggaa 50 acgcagcggc atcccaggc tccagagctc cctggtgaca gtctgtggct 100 gagcatggcc ctcccagccc tgggcctgga cccctggagc ctcctgggcc 150 ttttcctctt ccaactgctt cagctgctgc tgccgacgac gaccgcgggg 200 ggaggcgggc aggggcccat gcccagggtc agatactatg caggggatga 250 acgtagggca cttagcttct tccaccagaa gggcctccag gattttgaca 300 ctctgctcct gagtggtgat ggaaatactc tctacgtggg ggctcgagaa 350 gccattctgg ccttggatat ccaggatcca ggggtcccca ggctaaagaa 400

430

catgataccg tggccagcca gtgacagaaa aaagagtgaa tgtgccttta 450 agaagaagag caatgagaca cagtgtttca acttcatccg tgtcctggtt 500 tottacaatg toaccoatct ctacacctgc ggcaccttcg ccttcagccc 550 tgcttgtacc ttcattgaac ttcaagattc ctacctgttg cccatctcgg 600 aggacaaggt catggaggga aaaggccaaa gcccctttga ccccgctcac 650 aagcatacgg ctgtcttggt ggatgggatg ctctattctg gtactatgaa 700 caactteetg ggeagtgage ceatectgat gegeacactg ggateceage 750 ctgtcctcaa gaccgacaac ttcctccgct ggctgcatca tgacgcctcc 800 tttgtggcag ccatcccttc gacccaggtc gtctacttct tcttcgagga 850 gacagccagc gagtttgact tctttgagag gctccacaca tcgcgggtgg 900 ctagagtctg caagaatgac gtgggcggcg aaaagctgct gcagaagaag 950 tggaccacct tcctgaaggc ccagctgctc tgcacccagc cggggcagct 1000 gcccttcaac gtcatccgcc acgcggtcct gctccccgcc gattctccca 1050 cagctcccca catctacgca gtcttcacct cccagtggca ggttggcggg 1100 accaggaget etgeggtttg tgeettetet etettggaea ttgaaegtgt 1150 ctttaagggg aaatacaaag agttgaacaa agaaacttca cgctggacta 1200 cttatagggg ccctgagacc aacccccggc caggcagttg ctcagtgggc 1250 ccctcctctg ataaggccct gaccttcatg aaggaccatt tcctgatgga 1300 tgagcaagtg gtggggacgc ccctgctggt gaaatctggc gtggagtata 1350 cacggettge agtggagaca geceagggee ttgatgggea cagecatett 1400 gtcatgtacc tgggaaccac cacagggtcg ctccacaagg ctgtggtaag 1450 tggggacagc agtgctcatc tggtggaaga gattcagctg ttccctgacc 1500 ctgaacctgt tcgcaacctg cagctggccc ccacccaggg tgcagtgttt 1550 gtaggettet caggaggtgt etggagggtg eeeegageea aetgtagtgt 1600 ctatgagage tgtgtggaet gtgteettge eegggaeeee caetgtgeet 1650 gggaccctga gtcccgaacc tgttgcctcc tgtctgcccc caacctgaac 1700 tcctggaagc aggacatgga gcgggggaac ccagagtggg catgtgccag 1750 tggccccatg agcaggagcc ttcggcctca gagccgcccg caaatcatta 1800 aagaagteet ggetgteece aacteeatee tggageteee etgeeceeae 1850

ctgtcagcct tggcctctta ttattggagt catggcccag cagcagtccc 1900 agaagcctct tccactgtct acaatggctc cctcttgctg atagtgcagg 1950 atggagttgg gggtctctac cagtgctggg caactgagaa tggcttttca 2000 taccetgtga tetectactg ggtggacage caggaccaga ceetggeeet 2050 ggatcctgaa ctggcaggca tccccggga gcatgtgaag gtcccgttga 2100 ccagggtcag tggtggggcc gccctggctg cccagcagtc ctactggccc 2150 cactttgtca ctgtcactgt cctctttgcc ttagtgcttt caggagccct 2200 catcatcctc gtggcctccc cattgagagc actccgggct cggggcaagg 2250 ttcagggctg tgagaccctg cgccctgggg agaaggcccc gttaagcaga 2300 gagcaacacc tocagtotoc caaggaatgo aggacototg coagtgatgt 2350 ggacgctgac aacaactgcc taggcactga ggtagcttaa actctaggca 2400 caggecgggg ctgeggtgca ggeacctgge catgetggct gggeggecca 2450 agcacagccc tgactaggat gacagcagca caaaagacca cctttctccc 2500 ctgagaggag cttctgctac tctgcatcac tgatgacact cagcagggtg 2550 atgcacagca gtctgcctcc cctatgggac tcccttctac caagcacatg 2600 agetetetaa cagggtgggg getaceecca gaeetgetee tacaetgata 2650 ttgaagaacc tggagaggat cetteagtte tggceattee agggaeeete 2700 cagaaacaca gtgtttcaag agaccctaaa aaacctgcct gtcccaggac 2750 cctatggtaa tgaacaccaa acatctaaac aatcatatgc taacatgcca 2800 ctcctggaaa ctccactctg aagctgccgc tttggacacc aacactccct 2850 tctcccaggg tcatgcaggg atctgctccc tcctgcttcc cttaccagtc 2900 gtgcaccgct gactcccagg aagtctttcc tgaagtctga ccacctttct 2950 tottgottca gttggggcag actotgatco ottotgccot ggcagaatgg 3000 caggggtaat ctgagccttc ttcactcctt taccctagct gaccccttca 3050 cctctccccc tcccttttcc tttgttttgg gattcagaaa actgcttgtc 3100 agagactgtt tattttttat taaaaatata aggcttaaaa aaa 3143

<sup>&</sup>lt;210> 277

<sup>&</sup>lt;211> 761

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 277

Met Ala Leu Pro Ala Leu Gly Leu Asp Pro Trp Ser Leu Leu Gly Leu Phe Leu Phe Gln Leu Leu Gln Leu Leu Pro Thr Thr Ala Gly Gly Gly Gln Gly Pro Met Pro Arg Val Arg Tyr Tyr Ala Gly Asp Glu Arg Arg Ala Leu Ser Phe Phe His Gln Lys Gly Leu Gln Asp Phe Asp Thr Leu Leu Leu Ser Gly Asp Gly Asn Thr Leu Tyr Val Gly Ala Arg Glu Ala Ile Leu Ala Leu Asp Ile Gln Asp Pro Gly Val Pro Arg Leu Lys Asn Met Ile Pro Trp Pro Ala 100 Ser Asp Arg Lys Lys Ser Glu Cys Ala Phe Lys Lys Ser Asn 115 Glu Thr Gln Cys Phe Asn Phe Ile Arg Val Leu Val Ser Tyr Asn 130 Val Thr His Leu Tyr Thr Cys Gly Thr Phe Ala Phe Ser Pro Ala 145 Cys Thr Phe Ile Glu Leu Gln Asp Ser Tyr Leu Leu Pro Ile Ser Glu Asp Lys Val Met Glu Gly Lys Gly Gln Ser Pro Phe Asp Pro 175 Ala His Lys His Thr Ala Val Leu Val Asp Gly Met Leu Tyr Ser Gly Thr Met Asn Asn Phe Leu Gly Ser Glu Pro Ile Leu Met Arg Thr Leu Gly Ser Gln Pro Val Leu Lys Thr Asp Asn Phe Leu Arg Trp Leu His His Asp Ala Ser Phe Val Ala Ala Ile Pro Ser Thr Gln Val Val Tyr Phe Phe Phe Glu Glu Thr Ala Ser Glu Phe Asp 245 250 Phe Phe Glu Arg Leu His Thr Ser Arg Val Ala Arg Val Cys Lys Asn Asp Val Gly Glu Lys Leu Leu Gln Lys Lys Trp Thr Thr Phe Leu Lys Ala Gln Leu Leu Cys Thr Gln Pro Gly Gln Leu Pro

	290					295					300
Phe Asn Val	Ile Arg 305	His	Ala	Val	Leu	Leu 310	Pro	Ala	Asp	Ser	Pro 315
Thr Ala Pro	His Ile 320	Tyr	Ala	Val	Phe	Thr 325	Ser	Gln	Trp	Gln	Val 330
Gly Gly Thr	Arg Ser 335	Ser	Ala	Val	Суз	Ala 340	Phe	Ser	Leu	Leu	Asp 345
Ile Glu Arg	Val Phe 350	Lys	Gly	Lys	Tyr	Lys 355	Glu	Leu	Asn	Lys	Glu 360
Thr Ser Arg	Trp Thr 365	Thr	Tyr	Arg	Gly	Pro 370	Glu	Thr	Asn	Pro	Arg 375
Pro Gly Ser	Cys Ser 380	Val	Gly	Pro	Ser	Ser 385	Asp	Lys	Ala	Leu	Thr 390
Phe Met Lys	Asp His 395	Phe	Leu	Met	Asp	Glu 400	Gln	Val	Val	Gly	Thr 405
Pro Leu Leu	Val Lys 410	Ser	Gly	Val	Glu	Tyr 415	Thr	Arg	Leu	Ala	Val 420
Glu Thr Ala	Gln Gly 425	Leu	Asp	Gly	His	Ser 430	His	Leu	Val	Met	Tyr 435
Leu Gly Thr	Thr Thr 440	Gly	Ser	Leu	His	Lys 445	Ala	Val	Val	Ser	Gly 450
Asp Ser Ser	Ala His 455		Val	Glu	Glu	Ile 460	Gln	Leu	Phe	Pro	Asp 465
Pro Glu Pro	Val Arg 470	Asn	Leu	Gln	Leu	Ala 475	Pro	Thr	Gln	Gly	Ala 480
Val Phe Val	Gly Phe 485	Ser	Gly	Gly	Val	Trp 490	Arg	Val	Pro	Arg	Ala 495
Asn Cys Ser	Val Tyr 500	Glu	Ser	Cys	Val	Asp 505	Cys	Val	Leu	Ala	Arg 510
Asp Pro His	Cys Ala 515	Trp	Asp	Pro	Glu	Ser 520	Arg	Thr	Cys	Cys	Leu 525
Leu Ser Ala	Pro Asn 530		Asn	Ser	Trp	Lys 535	Gln	Asp	Met	Glu	Arg 540
Gly Asn Pro	Glu Trp 545	Ala	Cys	Ala	Ser	Gly 550	Pro	Met	Ser	Arg	Ser 555
Leu Arg Pro	Gln Ser 560	Arg	Pro	Gln	Ile	Ile 565	Lys	Glu	Val	Leu	Ala 570
Val Pro Asn	Ser Ile 575		Glu	Leu	Pro	Cys 580	Pro	His	Leu	Ser	Ala 585

<220>

<222> 1-24

<221> Artificial Sequence

<223> Synthetic construct.

```
Leu Ala Ser Tyr Tyr Trp Ser His Gly Pro Ala Ala Val Pro Glu
 Ala Ser Ser Thr Val Tyr Asn Gly Ser Leu Leu Leu Ile Val Gln
 Asp Gly Val Gly Gly Leu Tyr Gln Cys Trp Ala Thr Glu Asn Gly
 Phe Ser Tyr Pro Val Ile Ser Tyr Trp Val Asp Ser Gln Asp Gln
 Thr Leu Ala Leu Asp Pro Glu Leu Ala Gly Ile Pro Arg Glu His
 Val Lys Val Pro Leu Thr Arg Val Ser Gly Gly Ala Ala Leu Ala
 Ala Gln Gln Ser Tyr Trp Pro His Phe Val Thr Val Leu
 Phe Ala Leu Val Leu Ser Gly Ala Leu Ile Ile Leu Val Ala Ser
 Pro Leu Arg Ala Leu Arg Ala Arg Gly Lys Val Gln Gly Cys Glu
 Thr Leu Arg Pro Gly Glu Lys Ala Pro Leu Ser Arg Glu Gln His
 Leu Gln Ser Pro Lys Glu Cys Arg Thr Ser Ala Ser Asp Val Asp
 Ala Asp Asn Asn Cys Leu Gly Thr Glu Val Ala
<210> 278
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 278
ctgctggtga aatctggcgt ggag 24
<210> 279
<211> 24
<212> DNA
<213> Artificial
```

```
<400> 279
gtctggtcct ggctgtccac ccag 24
<210> 280
<211> 45
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-45
<223> Synthetic construct.
<400> 280
catcttgtca tgtacctggg aaccaccaca gggtcgctcc acaag 45
<210> 281
<211> 2320
<212> DNA
<213> Homo sapiens
<400> 281
agggtccctt agccgggcgc agggcgcgca gcccaggctg agatccgcgg 50
cttccgtaga agtgagcatg gctgggcagc gagtgcttct tctagtgggc 100
ttccttctcc ctggggtcct gctctcagag gctgccaaaa tcctgacaat 150
atctacagta ggtggaagcc attatctact gatggaccgg gtttctcaga 200
ttcttcaaga tcacggtcat aatgtcacca tgcttaacca caaaagaggt 250
ccttttatgc cagattttaa aaaggaagaa aaatcatatc aagttatcag 300
ttggcttgca cctgaagatc atcaaagaga atttaaaaag agttttgatt 350
tctttctgga agaaacttta ggtggcagag gaaaatttga aaacttatta 400
aatgttctag aatacttggc gttgcagtgc agtcattttt taaatagaaa 450
ggatatcatg gattccttaa agaatgagaa cttcgacatg gtgatagttg 500
aaacttttga ctactgtcct ttcctgattg ctgagaagct tgggaagcca 550
tttgtggcca ttctttccac ttcattcggc tctttggaat ttgggctacc 600
aatccccttg tcttatgttc cagtattccg ttccttgctg actgatcaca 650
tggacttctg gggccgagtg aagaattttc tgatgttctt tagtttctgc 700
aggaggcaac agcacatgca gtctacattt gacaacacca tcaaggaaca 750
tttcacagaa ggctctaggc cagttttgtc tcatcttcta ctgaaagcag 800
agttgtggtt cattaactct gactttgcct ttgattttgc tcgacctctg 850
```

cttcccaaca ctgtttatgt tggaggcttg atggaaaaac ctattaaacc 900

agtaccacaa gacttggaga acttcattgc caagtttggg gactctggtt 950 ttgtccttgt gaccttgggc tccatggtga acacctgtca gaatccggaa 1000 atcttcaagg agatgaacaa tgcctttgct cacctacccc aaggggtgat 1050 atggaagtgt cagtgttctc attggcccaa agatgtccac ctggctgcaa 1100 atgtgaaaat tgtggactgg cttcctcaga gtgacctcct ggctcaccca 1150 agcatccgtc tgtttgtcac ccacggcggg cagaatagca taatggaggc 1200 catccagcat ggtgtgccca tggtggggat ccctctcttt ggagaccagc 1250 ctgaaaacat ggtccgagta gaagccaaaa agtttggtgt ttctattcag 1300 ttaaagaagc tcaaggcaga gacattggct cttaagatga aacaaatcat 1350 ggaagacaag agatacaagt ccgcggcagt ggctgccagt gtcatcctgc 1400 gctcccaccc gctcagcccc acacagcggc tggtgggctg gattgaccac 1450 gtcctccaga cagggggcgc gacgcacctc aagccctatg tctttcagca 1500 gccctggcat gagcagtacc tgttcgacgt ttttgtgttt ctgctggggc 1550 tcactctggg gactctatgg ctttgtggga agctgctggg catggctgtc 1600 tggtggctgc gtggggccag aaaggtgaag gagacataag gccaggtgca 1650 gccttggcgg ggtctgtttg gtgggcgatg tcaccatttc tagggagctt 1700 cccactagtt ctggcagccc cattetetag teettetagt tateteetgt 1750 tttcttgaag aacaggaaaa atggccaaaa atcatccttt ccacttgcta 1800 attttgctac aaattcatcc ttactagctc ctgcctgcta gcagaaatct 1850 ttccagtcct cttgtcctcc tttgtttgcc atcagcaagg gctatgctgt 1900 gattetgtet etgagtgaet tggaccaetg acceteagat ttccagcett 1950 aaaatccacc ttccttctca tgcgcctctc cgaatcacac cctgactctt 2000 ccagcctcca tgtccagacc tagtcagcct ctctcactcc tgcccctact 2050 atctatcatg gaataacatc caagaaagac accttgcata ttctttcagt 2100 ttctgttttg ttctcccaca tattctcttc aatgctcagg aagcctgccc 2150 tgtgcttgag agttcagggc cggacacagg ctcacaggtc tccacattgg 2200 gtccctgtct ctggtgccca cagtgagctc cttcttggct gagcaggcat 2250 ggagactgta ggtttccaga tttcctgaaa aataaaagtt tacagcgtta 2300 tctctcccca acctcactaa 2320

<210> 282 <211> 523 <212> PRT

<213> Homo sapiens

<400> 282

Met Ala Gly Gln Arg Val Leu Leu Val Gly Phe Leu Leu Pro

Gly Val Leu Leu Ser Glu Ala Ala Lys Ile Leu Thr Ile Ser Thr

Val Gly Gly Ser His Tyr Leu Leu Met Asp Arg Val Ser Gln Ile

Leu Gln Asp His Gly His Asn Val Thr Met Leu Asn His Lys Arg

Gly Pro Phe Met Pro Asp Phe Lys Lys Glu Glu Lys Ser Tyr Gln

Val Ile Ser Trp Leu Ala Pro Glu Asp His Gln Arg Glu Phe Lys

Lys Ser Phe Asp Phe Phe Leu Glu Glu Thr Leu Gly Gly Arg Gly 100

Lys Phe Glu Asn Leu Leu Asn Val Leu Glu Tyr Leu Ala Leu Gln 115

Cys Ser His Phe Leu Asn Arg Lys Asp Ile Met Asp Ser Leu Lys 125 130

Asn Glu Asn Phe Asp Met Val Ile Val Glu Thr Phe Asp Tyr Cys 145

Pro Phe Leu Ile Ala Glu Lys Leu Gly Lys Pro Phe Val Ala Ile

Leu Ser Thr Ser Phe Gly Ser Leu Glu Phe Gly Leu Pro Ile Pro 175 170

Leu Ser Tyr Val Pro Val Phe Arg Ser Leu Leu Thr Asp His Met 190 185

Asp Phe Trp Gly Arq Val Lys Asn Phe Leu Met Phe Phe Ser Phe 205

Cys Arg Arg Gln Gln His Met Gln Ser Thr Phe Asp Asn Thr Ile 220

Lys Glu His Phe Thr Glu Gly Ser Arg Pro Val Leu Ser His Leu 230 235

Leu Leu Lys Ala Glu Leu Trp Phe Ile Asn Ser Asp Phe Ala Phe

Asp Phe Ala Arg Pro Leu Leu Pro Asn Thr Val Tyr Val Gly Gly

				260					265					270
Leu	Met	Glu	Lys	Pro 275	Ile	Lys	Pro	Val	Pro 280	Gln	Asp	Leu	Glu	Asn 285
Phe	Ile	Ala	Lys	Phe 290	Gly	Asp	Ser	Gly	Phe 295	Val	Leu	Val	Thr	Leu 300
Gly	Ser	Met	Val	Asn 305	Thr	Cys	Gln	Asn	Pro 310	Glu	Ile	Phe	Lys	Glu 315
Met	Asn	Asn	Ala	Phe 320	Ala	His	Leu	Pro	Gln 325	Gly	Val	Ile	Trp	Lys 330
Cys	Gln	Cys	Ser	His 335	Trp	Pro	Lys	Asp	Val 340	His	Leu	Ala	Ala	Asn 345
Val	Lys	Ile	Val	Asp 350	Trp	Leu	Pro	Gln	Ser 355	Asp	Leu	Leu	Ala	His 360
Pro	Ser	Ile	Arg	Leu 365	Phe	Val	Thr	His	Gly 370	Gly	Gln	Asn	Ser	Ile 375
Met	Glu	Ala	Ile	Gln 380	His	Gly	Val	Pro	Met 385	Val	Gly	Ile	Pro	Leu 390
Phe	Gly	Asp	Gln	Pro 395	Glu	Asn	Met	Val	Arg 400	Val	Glu	Ala	Lys	Lys 405
Phe	Gly	Val	Ser	Ile 410	Gln	Leu	Lys	Lys	Leu 415	Lys	Ala	Glu	Thr	Leu 420
Ala	Leu	Lys	Met	Lys 425	Gln	Ile	Met	Glu	Asp 430	Lys	Arg	Tyr	Lys	Ser 435
Ala	Ala	Val	Ala	Ala 440	Ser	Val	Ile	Leu	Arg 445	Ser	His	Pro	Leu	Ser 450
Pro	Thr	Gln	Arg	Leu 455	Val	Gly	Trp	Ile	Asp 460	His	Val	Leu	Gln	Thr 465
Gly	Gly	Ala	Thr	His 470	Leu	Lys	Pro	Tyr	Val 475	Phe	Gln	Gln	Pro	Trp 480
His	Glu	Gln	Tyr	Leu 485	Phe	Asp	Val	Phe	Val 490	Phe	Leu	Leu	Gly	Leu 495
Thr	Leu	Gly	Thr	Leu 500	Trp	Leu	Cys	Gly	Lys 505	Leu	Leu	Gly	Met	Ala 510
Val	Trp	Trp	Leu	Arg 515	Gly	Ala	Arg	Lys	Val 520	Lys	Glu	Thr		

<210> 283 <211> 24 <212> DNA <213> Artificial

```
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 283
tgcctttgct cacctacccc aagg 24
<210> 284
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 284
tcaggctggt ctccaaagag aggg 24
<210> 285
<211> 45
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-45
<223> Synthetic construct.
<400> 285
 cccaaagatg tccacctggc tgcaaatgtg aaaattgtgg actgg 45
<210> 286
<211> 2340
<212> DNA
<213> Homo sapiens
<400> 286
gggctgttga tttgtggggg attttgaaga gaggaggaat aggaggaagg 50
 ggttgagggg ctgcctctgg catatgcaca cactcacaca ttctgtcaca 100
 cccgtcacac acacatacca tgttctccat ccccccaggt ccagccctca 150
 gtgctgtccc atccagcagg gctaccctga agctctggct gcagccctcc 200
 cgtccagtgg gcaggcggct tcatccctcc tttctctccc aaagcccaac 250
 tgctgtcact gcatgctctg ccaaggagga gggaactgca gtgacagcag 300
 gagtaagagt gggaggcagg acagagctgg gacacaggta tggagagggg 350
 gttcagcgag cctagagagg gcagactatc agggtgccgg cggtgagaat 400
 ccagggagag gagcggaaac agaagaggg cagaagaccg gggcacttgt 450
```

gggttgcaga gcccctcagc catgttggga gccaagccac actggctacc 500 aggtccccta cacagtcccg ggctgccctt ggttctggtg cttctggccc 550 tgggggccgg gtgggcccag gaggggtcag agcccgtcct gctggagggg 600 gagtgcctgg tggtctgtga gcctggccga gctgctgcag gggggcccgg 650 gggagcagcc ctgggagagg cacccctgg gcgagtggca tttgctgcgg 700 tccgaagcca ccaccatgag ccagcagggg aaaccggcaa tggcaccagt 750 ggggccatct acttcgacca ggtcctggtg aacgagggcg gtggctttga 800 ccgggcctct ggctccttcg tagcccctgt ccggggtgtc tacagcttcc 850 ggttccatgt ggtgaaggtg tacaaccgcc aaactgtcca ggtgagcctg 900 atgctgaaca cgtggcctgt catctcagcc tttgccaatg atcctgacgt 950 gacccgggag gcagccacca gctctgtgct actgcccttg gaccctgggg 1000 accgagtgtc tctgcgcctg cgtcggggga atctactggg tggttggaaa 1050 tactcaagtt tctctggctt cctcatcttc cctctctgag gacccaagtc 1100 tttcaagcac aagaatccag ccctgacaa ctttcttctg ccctctcttg 1150 ccccagaaac agcagaggca ggagagagac tccctctggc tcctatccca 1200 cctctttgca tgggaccctg tgccaaacac ccaagtttaa gagaagagta 1250 gagetgtgge atetecagae caggeettte cacceaceca ceeccagtta 1300 ccctcccagc cacctgctgc atctgttcct gcctgcagcc ctaggatcag 1350 ggcaaggttt ggcaagaagg aagatctgca ctactttgcg gcctctgctc 1400 ctccggttcc cccaccccag cttcctgctc aatgctgatc agggacaggt 1450 ggcgcaggtg agcctgacag gccccacag gagcccagat ggacaagcct 1500 cagcgtaccc tgcaggcttc ttcctgtgag gaaagccagc atcacggatc 1550 tcagccagca ccgtcagaag ctgagccagc accgtatggg ctagggtggg 1600 aggctcagcc acaggcagaa gggtgggaag ggcctggagt ctgtggctgg 1650 tgaggaagga aggagggtgt attgtctaga ctgaacatgg tacacattct 1700 gcatgtatag cagagcagcc agcaggtagc aatcctggct gtccttctat 1750 gctggatccc agatggactc tggcccttac ctccccacct gagattaggg 1800 tgagtgtgtt tgctctggct gagagcagag ctgagagcag gtatacagag 1850 ctggaagtgg accatggaaa acatcgataa ccatgcatcc tcttgcttgg 1900

cacctcctg aaactgctcc acctttgaag tttgaacttt agtccctcca 1950 cactctgact gctgcctcct tcctccagc tctctcactg agttatcttc 2000 actgtacctg ttccagcata tccccactat ctctctttct cctgatctgt 2050 gctgtcttat tctcctcctt aggcttccta ttacctggga ttccatgatt 2100 cattccttca gaccctctcc tgccagtatg ctaaaccctc cctctcttt 2150 tcttatcccg ctgtcccatt ggcccagcct ggatgaatct atcaataaaa 2200 caactagaga atggtggtca gtgagacact atagaattac taaggagaag 2250 atgcctctgg agtttggatc gggtgttaca ggtacaagta ggtatgttgc 2300 agaggaaaat aaatatcaaa ctgtatacta aaattaaaaa 2340

<210> 287

<211> 205

<212> PRT

<213> Homo sapiens

<400> 287

Met Leu Gly Ala Lys Pro His Trp Leu Pro Gly Pro Leu His Ser 1 5 10 15

Pro Gly Leu Pro Leu Val Leu Val Leu Leu Ala Leu Gly Ala Gly 20 25 30

Trp Ala Gln Glu Gly Ser Glu Pro Val Leu Leu Glu Gly Glu Cys 35 40 45

Leu Val Val Cys Glu Pro Gly Arg Ala Ala Gly Gly Pro Gly 50 55 60

Gly Ala Ala Leu Gly Glu Ala Pro Pro Gly Arg Val Ala Phe Ala 65 70 75

Ala Val Arg Ser His His Glu Pro Ala Gly Glu Thr Gly Asn 80 85 90

Gly Thr Ser Gly Ala Ile Tyr Phe Asp Gln Val Leu Val Asn Glu 95 100 105

Gly Gly Gly Phe Asp Arg Ala Ser Gly Ser Phe Val Ala Pro Val 110 115 120

Arg Gly Val Tyr Ser Phe Arg Phe His Val Val Lys Val Tyr Asn 125 130 135

Arg Gln Thr Val Gln Val Ser Leu Met Leu Asn Thr Trp Pro Val 140 145 150

Ile Ser Ala Phe Ala Asn Asp Pro Asp Val Thr Arg Glu Ala Ala 155 160 165

Thr Ser Ser Val Leu Leu Pro Leu Asp Pro Gly Asp Arg Val Ser

Leu Arg Leu Arg Arg Gly Asn Leu Leu Gly Gly Trp Lys Tyr Ser 185 Ser Phe Ser Gly Phe Leu Ile Phe Pro Leu 200 <210> 288 <211> 24 <212> DNA <213> Artificial <220> <221> Artificial Sequence <222> 1-24 <223> Synthetic construct. <400> 288 aggcagccac cagctctgtg ctac 24 <210> 289 <211> 27 <212> DNA <213> Artificial <220> <221> Artificial Sequence <222> 1-27 <223> Synthetic construct. <400> 289 cagagagga agatgaggaa gccagag 27 <210> 290 <211> 42 <212> DNA <213> Artificial <220> <221> Artificial Sequence <222> 1-42 <223> Synthetic construct. <400> 290 ctgtgctact gcccttggac cctggggacc gagtgtctct gc 42 <210> 291 <211> 1570 <212> DNA <213> Homo sapiens <400> 291 gctgtttctc tcgcgccacc actggccgcc ggccgcagct ccaggtgtcc 50 tagccgccca gcctcgacgc cgtcccggga cccctgtgct ctgcgcgaag 100

170

180

175

ccctggcccc gggggccggg gcatgggcca ggggcgcggg gtgaagcggc 150

ttcccgcggg gccgtgactg ggcgggcttc agccatgaag accctcatag 200 ccgcctactc cggggtcctg cgcggcgagc gtcaggccga ggctgaccgg 250 agccagcgct ctcacggagg acctgcgctg tcgcgcgagg ggtctgggag 300 atggggcact ggatccagca tcctctccgc cctccaggac ctcttctctg 350 tcacctggct caataggtcc aaggtggaaa agcagctaca ggtcatctca 400 gtgctccagt gggtcctgtc cttccttgta ctgggagtgg cctgcagtgc 450 catcctcatg tacatattct gcactgattg ctggctcatc gctgtgctct 500 acttcacttg gctggtgttt gactggaaca cacccaagaa aggtggcagg 550 aggtcacagt gggtccgaaa ctgggctgtg tggcgctact ttcgagacta 600 ctttcccatc cagctggtga agacacacaa cctgctgacc accaggaact 650 atatctttgg ataccacccc catggtatca tgggcctggg tgccttctgc 700 aacttcagca cagaggccac agaagtgagc aagaagttcc caggcatacg 750 gccttacctg gctacactgg caggcaactt ccgaatgcct gtgttgaggg 800 agtacctgat gtctggaggt atctgccctg tcagccggga caccatagac 850 tatttgcttt caaagaatgg gagtggcaat gctatcatca tcgtggtcgg 900 gggtgcggct gagtctctga gctccatgcc tggcaagaat gcagtcaccc 950 tgcggaaccg caagggcttt gtgaaactgg ccctgcgtca tggagctgac 1000 ctggttccca tctactcctt tggagagaat gaagtgtaca agcaggtgat 1050 cttcgaggag ggctcctggg gccgatgggt ccagaagaag ttccagaaat 1100 acattggttt cgccccatgc atcttccatg gtcgaggcct cttctcctcc 1150 gacacctggg ggctggtgcc ctactccaag cccatcacca ctgttgtggg 1200 agageceate accatececa agetggagea eccaacecag caagacateg 1250 acctgtacca caccatgtac atggaggccc tggtgaagct cttcgacaag 1300 cacaagacca agttcggcct cccggagact gaggtcctgg aggtgaactg 1350 agccagcctt cggggccaat tccctggagg aaccagctgc aaatcacttt 1400 tttgctctgt aaatttggaa gtgtcatggg tgtctgtggg ttatttaaaa 1450 aaaaaaaaa aaaaaaaaa 1570

```
<210> 292
<211> 388
```

<212> PRT <213> Homo sapiens

<400> 292

Met Lys Thr Leu Ile Ala Ala Tyr Ser Gly Val Leu Arg Gly Glu
1 5 10 15

Arg Gln Ala Glu Ala Asp Arg Ser Gln Arg Ser His Gly Gly Pro
20 25 30

Ala Leu Ser Arg Glu Gly Ser Gly Arg Trp Gly Thr Gly Ser Ser 35 40 45

Ile Leu Ser Ala Leu Gln Asp Leu Phe Ser Val Thr Trp Leu Asn 50 55 60

Arg Ser Lys Val Glu Lys Gln Leu Gln Val Ile Ser Val Leu Gln 65 70 75

Trp Val Leu Ser Phe Leu Val Leu Gly Val Ala Cys Ser Ala Ile 80 85 90

Leu Met Tyr Ile Phe Cys Thr Asp Cys Trp Leu Ile Ala Val Leu 95 100 105

Tyr Phe Thr Trp Leu Val Phe Asp Trp Asn Thr Pro Lys Lys Gly 110 115 120

Gly Arg Arg Ser Gln Trp Val Arg Asn Trp Ala Val Trp Arg Tyr 125 130 135

Phe Arg Asp Tyr Phe Pro Ile Gln Leu Val Lys Thr His Asn Leu 140 145 150

Leu Thr Thr Arg Asn Tyr Ile Phe Gly Tyr His Pro His Gly Ile 155 160 165

Met Gly Leu Gly Ala Phe Cys Asn Phe Ser Thr Glu Ala Thr Glu 170 175 180

Val Ser Lys Lys Phe Pro Gly Ile Arg Pro Tyr Leu Ala Thr Leu 185 190 195

Ala Gly Asn Phe Arg Met Pro Val Leu Arg Glu Tyr Leu Met Ser 200 205 210

Gly Gly Ile Cys Pro Val Ser Arg Asp Thr Ile Asp Tyr Leu Leu 225

Ser Lys Asn Gly Ser Gly Asn Ala Ile Ile Ile Val Val Gly Gly

Ala Ala Glu Ser Leu Ser Ser Met Pro Gly Lys Asn Ala Val Thr 245 250 250

Leu Arg Asn Arg Lys Gly Phe Val Lys Leu Ala Leu Arg His Gly

<220>

270 265 260 Ala Asp Leu Val Pro Ile Tyr Ser Phe Gly Glu Asn Glu Val Tyr 275 Lys Gln Val Ile Phe Glu Glu Gly Ser Trp Gly Arg Trp Val Gln 290 Lys Lys Phe Gln Lys Tyr Ile Gly Phe Ala Pro Cys Ile Phe His Gly Arg Gly Leu Phe Ser Ser Asp Thr Trp Gly Leu Val Pro Tyr Ser Lys Pro Ile Thr Thr Val Val Gly Glu Pro Ile Thr Ile Pro 335 Lys Leu Glu His Pro Thr Gln Gln Asp Ile Asp Leu Tyr His Thr 350 Met Tyr Met Glu Ala Leu Val Lys Leu Phe Asp Lys His Lys Thr 365 Lys Phe Gly Leu Pro Glu Thr Glu Val Leu Glu Val Asn 380 <210> 293 <211> 24 <212> DNA <213> Artificial <220> <221> Artificial Sequence <222> 1-24 <223> Synthetic construct. <400> 293 gctgacctgg ttcccatcta ctcc 24 <210> 294 <211> 24 <212> DNA <213> Artificial <220> <221> Artificial Sequence <222> 1-24 <223> Synthetic construct. <400> 294 cccacagaca cccatgacac ttcc 24 <210> 295 <211> 50 <212> DNA <213> Artificial

- <221> Artificial Sequence
  <222> 1-50
  <223> Synthetic construct.
  <400> 295
   aagaatgaat tgtacaaagc aggtgatctt cgaggaggc tcctggggcc 50
  <210> 296
  <211> 3060
  <212> DNA
  <213> Homo sapiens
  <400> 296
   gggcggcggg atgggggcgg gcgcggggg gcgcgcact cgctgaggcc 50
   ccgacgcagg gccgggcgg gcccagggcc gaggaggcgg gcgccagag 100
   cggggccgcg gaggcgacgc cggggacgcc cgcgcaca gcaggtggcg 150
   gcggctgcag gcttgtccag ccggaagccc tgagggcagc tgttcccact 200
  - ccgacgcagg gccgggccgg gcccagggcc gaggagcgcg gcggccagag 100 cggggccgcg gaggcgacgc cggggacgc cgcgcgacga gcaggtggcg 150 gcggctgcag gcttgtccag ccggaagccc tgagggcagc tgttcccact 200 ggctctgctg accttgtgcc ttggacggct gtcctcagcg aggggccgtg 250 cacccgctcc tgagcagcgc catgggcctg ctggccttcc tgaagaccca 300 gttcgtgctg cacctgctgg tcggctttgt cttcgtggtg agtggtctgg 350 tcatcaactt cgtccagctg tgcacgctgg cgctctggcc ggtcagcaag 400 cagetetace geogeeteaa etgeegeete geetacteae tetggageea 450 actggtcatg ctgctggagt ggtggtcctg cacggagtgt acactgttca 500 cggaccaggc cacggtagag cgctttggga aggagcacgc agtcatcatc 550 ctcaaccaca acttcgagat cgacttcctc tgtgggtgga ccatgtgtga 600 gcgcttcgga gtgctgggga gctccaaggt cctcgctaag aaggagctgc 650 tctacgtgcc cctcatcggc tggacgtggt actttctgga gattgtgttc 700 tgcaagcgga agtgggagga ggaccgggac accgtggtcg aagggctgag 750 gcgcctgtcg gactaccccg agtacatgtg gtttctcctg tactgcgagg 800 ggacgcgctt cacggagacc aagcaccgcg ttagcatgga ggtggcggct 850 gctaaggggc ttcctgtcct caagtaccac ctgctgccgc ggaccaaggg 900 cttcaccacc gcagtcaagt gcctccgggg gacagtcgca gctgtctatg 950 atgtaaccct gaacttcaga ggaaacaaga acccgtccct gctggggatc 1000 ctctacggga agaagtacga ggcggacatg tgcgtgagga gatttcctct 1050 ggaagacatc ccgctggatg aaaaggaagc agctcagtgg cttcataaac 1100 tgtaccagga gaaggacgcg ctccaggaga tatataatca gaagggcatg 1150

tttccagggg agcagtttaa gcctgcccgg aggccgtgga ccctcctgaa 1200 cttcctgtcc tgggccacca ttctcctgtc tcccctcttc agttttgtct 1250 tgggcgtctt tgccagcgga tcacctctcc tgatcctgac tttcttgggg 1300 tttgtgggag cagcttcctt tggagttcgc agactgatag gagaatcgct 1350 tgaacctggg aggtggagat tgcagtgagc tgagatggca tcactgtact 1400 ccagcctagg caacagagca agactcagtc tcaaaaaaaa aaaaaaacaa 1450 aaaaacccca gaaattctgg agttgaactg tgtagttact gacatgaaaa 1500 attcactaga ggctgaacag cagatttgag caggcagaaa aaaatcagca 1550 agcttgaaga tggtaccttg agatttttca ggctaatgaa aaaagaatga 1600 aggaaaatta acagcctcag agacccatgg tgcaccgtca cacaaatcaa 1650 catatgcatg atgagagtcc cagaaggaga ggagagaaag ggtcagaaag 1700 aatggccaca agctgatgaa aaacagtaac ctacccactc aggaagctca 1750 gtgaactcca atgaggatga atatcagaga tccacaccta gatatttcat 1800 aatcaaagtg tcaaatgaca aagaatcttg aaagcagcaa gagatgagca 1850 acttatcttg ttcaaaggat ctttgatcag attaacagct catttctcct 1900 cagaaatcat gggagccagg agatagtggg atgaacactg ttgaaggcaa 1950 aaccttcaac tgtaattatt ggacttttga gtcttagatg gtcctgacct 2000 ctttgtcttc agggacagtt tttcaattta atccctaata acaattagtc 2050 aagetteett gaeetgtagg aaggeetgte tttaggeegg geaeagtgge 2100 ttacacctgt aatcccagca ctttgggagg cccagacggg tggatcattt 2150 ggggtcaggc tgatctcaaa ctcctgagtt caggtgatct gcccgcctca 2200 gcctcccaaa gtgttgtgat tgcaggcgtg agccactgcg cctggccgga 2250 atttcttttt aaggetgaat gatgggggee aggeaegatg geteaegeet 2300 gtgatcccaa gtagcttgga ttgtaaacat gcaccaccat gcctggctaa 2350 tttttgtatt tttagtagag acgtgttagc caggctggtc tcgatctcct 2400 gacctcaagt gaccacctgc ctcagcctcc caaagtactg ggattacagg 2450 cgtgagccac tgtgcctggc cttgagcatc ttgtgatgtg cttattggcc 2500 atttgtatat cttctatctt ctttggggaa atgtctgttc aagtcctttg 2550 

ttgttctgtt gcccaggctg gagtacagtg gcacagtctt ggctcactgc 2650
agcctcgacc tcctgggctg cagtgatcct cccacctcag cctcccttgt 2700
agctgtattt ttttgtattt tgtattttgt agctgtagtt tttgtatttt 2750
ttgtggagac agcatttcac catgatgccc aggctggtct tgaactcctg 2800
agctcaagtg atctgcctgc ttcagcctcc caaagtgctg ggattacaga 2850
catgagccac tgcacctggc aaactcccaa aattcaacac acacacaca 2900
aaaaccacct gattcaaaat gggcagaggg gccgggtgtg gccccaacta 2950
ccagggagac tgaagtgga ggatcgcttg ggcatgagaa gtcgaggctg 3000
cagtgagtcg aggttgtgcg actgcattcc agcctggaca acagagtgag 3050
accctgtctc 3060

<210> 297 <211> 368 <212> PRT

<213> Homo sapiens

<400> 297

Met Gly Leu Leu Ala Phe Leu Lys Thr Gln Phe Val Leu His Leu 1 5 10 15

Leu Val Gly Phe Val Phe Val Val Ser Gly Leu Val Ile Asn Phe 20 25 30

Val Gln Leu Cys Thr Leu Ala Leu Trp Pro Val Ser Lys Gln Leu 35 40 45

Tyr Arg Arg Leu Asn Cys Arg Leu Ala Tyr Ser Leu Trp Ser Gln
50 55 60

Leu Val Met Leu Leu Glu Trp Trp Ser Cys Thr Glu Cys Thr Leu 65 70 75

Phe Thr Asp Gln Ala Thr Val Glu Arg Phe Gly Lys Glu His Ala 80 85 90

Val Ile Ile Leu Asn His Asn Phe Glu Ile Asp Phe Leu Cys Gly 95 100 105

Trp Thr Met Cys Glu Arg Phe Gly Val Leu Gly Ser Ser Lys Val

Leu Ala Lys Lys Glu Leu Leu Tyr Val Pro Leu Ile Gly Trp Thr 125 130 135

Trp Tyr Phe Leu Glu Ile Val Phe Cys Lys Arg Lys Trp Glu Glu 140 145 150

Asp Arg Asp Thr Val Val Glu Gly Leu Arg Arg Leu Ser Asp Tyr 155 160 165

```
Pro Glu Tyr Met Trp Phe Leu Leu Tyr Cys Glu Gly Thr Arg Phe
Thr Glu Thr Lys His Arg Val Ser Met Glu Val Ala Ala Ala Lys
Gly Leu Pro Val Leu Lys Tyr His Leu Leu Pro Arg Thr Lys Gly
Phe Thr Thr Ala Val Lys Cys Leu Arg Gly Thr Val Ala Ala Val
Tyr Asp Val Thr Leu Asn Phe Arg Gly Asn Lys Asn Pro Ser Leu
Leu Gly Ile Leu Tyr Gly Lys Lys Tyr Glu Ala Asp Met Cys Val
Arg Arg Phe Pro Leu Glu Asp Ile Pro Leu Asp Glu Lys Glu Ala
Ala Gln Trp Leu His Lys Leu Tyr Gln Glu Lys Asp Ala Leu Gln
                275
Glu Ile Tyr Asn Gln Lys Gly Met Phe Pro Gly Glu Gln Phe Lys
                290
Pro Ala Arg Arg Pro Trp Thr Leu Leu Asn Phe Leu Ser Trp Ala
                305
Thr Ile Leu Leu Ser Pro Leu Phe Ser Phe Val Leu Gly Val Phe
                320
Ala Ser Gly Ser Pro Leu Leu Ile Leu Thr Phe Leu Gly Phe Val
                335
Gly Ala Ala Ser Phe Gly Val Arg Arg Leu Ile Gly Glu Ser Leu
                350
                                    355
Glu Pro Gly Arg Trp Arg Leu Gln
                365
```

- <210> 298
- <211> 24
- <212> DNA
- <213> Artificial
- <220>
- <221> Artificial Sequence
- <222> 1-24
- <223> Synthetic construct.
- <400> 298
- cttcctctgt gggtggacca tgtg 24
- <210> 299
- <211> 21
- <212> DNA

```
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-21
<223> Synthetic construct.
<400> 299
gccacctcca tgctaacgcg g 21
<210> 300
<211> 45
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-45
<223> Synthetic construct.
<400> 300
ccaaggtcct cgctaagaag gagctgctct acgtgcccct catcg 45
<210> 301
<211> 1334
<212> DNA
<213> Homo sapiens
<400> 301
gatattettt atttttaaga atetgaagta etatgeatea eteeeteeaa 50
 tgtcctgggg cagccaccag gcatattcat ctttgtgtgt gtttttcttt 100
 tgctttagca ctggggcact tcttgcttat ttctttggta ggaaaggggc 150
 tcagtttgtc ttgtggggtt ggtggcaggc aggccggctt acgcctgata 200
 cggccctggg ttagaaggga agggaagata aacttttata caaatgggga 250
 tagctggggt ctgagacctg cttcctcagt aaaattcctg ggatctgcct 300
 ataccttctt ttctctaacc tggcataccc tgcttaaagc ctctcagggc 350
 ttctctctgt tcttaggatc aaagtattta gagctacaag agccctcatg 400
 gtctggcccc tgccccctg gccagcttca ttgtacatgt ggtgttctct 450
 tgtcgttcct gtaatgtggt atgccatggg gtctttgcac aagcctttcc 500
 tctttggctg gacactgttc cctgccccc ccatactctt cctacttaat 550
 atgtagtcat cctgcagatt tcaattctaa catcattttc tccagggatc 600
 ctggcctgac agaatctcat cttgtttaat gctctcataa gaccacttgt 650
 ttcccttttg cagcacttgc cactcagttg tatctttatg tgcgtttgtg 700
 gttgtatggg ttgtgtctgt tccccagaat gcccagctct gagctgcgtg 750
```

agggtcaagg gcattgctgt gcctgccagg tatagtgcct acatgtggtg 800 ggtgctcatg ttttagagac taaatggagg aggagatgag gaaaagattg 850 aaatctctca gttcaccaga tggtgtaggg cccagcattg taaattcaca 900 cgttgactgt gcttgtgaat tatctgggga tgcaggtcct gattcagtag 950 gcccaggttg ggcatctcta acaaactccc acgtgatgct gatgctggtc 1000 ctatgaacta tactaaatag taagaatcta tggagccagg ctgggcatgg 1050 tggctcacac ctatgatccc agcactttgg gaggctgagg caggctgatc 1100 acctggagtc aggattcaa gactagcctg gccaacatgg tggaacccca 1150 tctgtactaa aaatacacaa attagctggg catggtgac catgctgta 1200 gtcccagcta cttgggaggc tgaagcaaga gaatcgcttg aacctgggag 1250 gcggaggttg cagtgagccg agatcagcc actgtattcc aaccagggtg 1300 acagagtgag actctatgtc caaaaaaaaa aaaa 1334

<210> 302

<211> 143

<212> PRT

<213> Homo sapiens

<400> 302

Met His His Ser Leu Gln Cys Pro Gly Ala Ala Thr Arg His Ile 1 5 10 15

His Leu Cys Val Cys Phe Ser Phe Ala Leu Ala Leu Gly His Phe 20 25 30

Leu Leu Ile Ser Leu Val Gly Lys Gly Leu Ser Leu Ser Cys Gly 35 40 45

Val Gly Gly Arg Gln Ala Gly Leu Arg Leu Ile Arg Pro Trp Val
50 55 60

Arg Arg Glu Gly Lys Ile Asn Phe Tyr Thr Asn Gly Asp Ser Trp 65 70 75

Gly Leu Arg Pro Ala Ser Ser Val Lys Phe Leu Gly Ser Ala Tyr 80 85 90

Thr Phe Phe Ser Leu Thr Trp His Thr Leu Leu Lys Ala Ser Gln 95 100 105

Gly Phe Ser Leu Phe Leu Gly Ser Lys Tyr Leu Glu Leu Gln Glu 110 115 120

Pro Ser Trp Ser Gly Pro Cys Pro Pro Gly Gln Leu His Cys Thr 125 130 135

Cys Gly Val Leu Leu Ser Phe Leu

```
<210> 303
<211> 1768
```

<212> DNA

<213> Homo sapiens

<400> 303 ggctggactg gaactcctgg tcccaagtga tccacccgcc tcagcctccc 50 aaggtgctgt gattataggt gtaagccacc gtgtctggcc tctgaacaac 100 tttttcagca actaaaaaag ccacaggagt tgaactgcta ggattctgac 150 tatgctgtgg tggctagtgc tcctactcct acctacatta aaatctgttt 200 tttgttctct tgtaactagc ctttaccttc ctaacacaga ggatctgtca 250 ctgtggctct ggcccaaacc tgaccttcac tctggaacga gaacagaggt 300 ttctacccac acceptcccct cgaagccggg gacagcctca ccttgctggc 350 ctctcgctgg agcagtgccc tcaccaactg tctcacgtct ggaggcactg 400 actegggeag tgeaggtage tgageetett ggtagetgeg gettteaagg 450 tgggccttgc cctggccgta gaagggattg acaagcccga agatttcata 500 ggcgatggct cccactgccc aggcatcagc cttgctgtag tcaatcactg 550 ccctggggcc aggacgggcc gtggacacct gctcagaagc agtgggtgag 600 acatcacgct geoegeceat etaacetttt catgteetge acateacetg 650 atccatgggc taatctgaac tctgtcccaa ggaacccaga gcttgagtga 700 gctgtggctc agacccagaa ggggtctgct tagaccacct ggtttatgtg 750 acaggacttg cattctcctg gaacatgagg gaacgccgga ggaaagcaaa 800 gtggcaggga aggaacttgt gccaaattat gggtcagaaa agatggaggt 850 gttgggttat cacaaggcat cgagtctcct gcattcagtg gacatgtggg 900 ggaagggctg ccgatggcgc atgacacact cgggactcac ctctggggcc 950 atcagacage egitteegee eegateeaeg taccagetge tgaagggeaa 1000 ctgcaggccg atgctctcat cagccaggca gcagccaaaa tctgcgatca 1050 ccagccaggg gcagccgtct gggaaggagc aagcaaagtg accatttctc 1100 ctcccctcct tccctctgag aggccctcct atgtccctac taaagccacc 1150 agcaagacat agctgacagg ggctaatggc tcagtgttgg cccaggaggt 1200 cagcaaggcc tgagagctga tcagaagggc ctgctgtgcg aacacggaaa 1250 tgcctccagt aagcacaggc tgcaaaatcc ccaggcaaag gactgtgtgg 1300 ctcaatttaa atcatgttct agtaattgga gctgtccca agaccaaagg 1350 agctagagct tggttcaaat gatctccaag ggcccttata ccccaggaga 1400 ctttgatttg aatttgaaac cccaaatcca aacctaagaa ccaggtgcat 1450 taagaatcag ttattgccgg gtgtggtggc ctgtaatgcc aacattttgg 1500 gaggccgagg cgggtagatc acctgaggtc aggagttcaa gaccagcctg 1550 gccaacatgg tgaaacccct gtctctacta aaaatacaaa aaaactagcc 1600 aggcatggtg gtgtgtgcct gtatcccagc tactcgggag gctgagacag 1650 gagaattact tgaacctggg aggtgaagga ggctgagaca ggagaatcac 1700 ttcagcctga gcaacacagc gagactctgt ctcagaaaaa ataaaaaaag 1750 aattatggtt atttgtaa 1768

<210> 304

<211> 109

<212> PRT

<213> Homo sapiens

<400> 304

Met Leu Trp Trp Leu Val Leu Leu Leu Pro Thr Leu Lys Ser 1 5 10 15

Val Phe Cys Ser Leu Val Thr Ser Leu Tyr Leu Pro Asn Thr Glu 20 25 30

Asp Leu Ser Leu Trp Leu Trp Pro Lys Pro Asp Leu His Ser Gly
35 40 45

Thr Arg Thr Glu Val Ser Thr His Thr Val Pro Ser Lys Pro Gly
50 55 60

Thr Ala Ser Pro Cys Trp Pro Leu Ala Gly Ala Val Pro Ser Pro 65 70 75

Thr Val Ser Arg Leu Glu Ala Leu Thr Arg Ala Val Gln Val Ala 80 85 90

Glu Pro Leu Gly Ser Cys Gly Phe Gln Gly Gly Pro Cys Pro Gly 95 100 105

Arg Arg Arg Asp

<210> 305

<211> 989

<212> DNA

<213> Homo sapiens

<400> 305

gegggeeege gagteegaga eetgteeeag gageteeage teaegtgace 50 tgtcactgcc tcccgccgcc tcctgcccgc gccatgaccc agccggtgcc 100 ccqqctctcc gtqcccqccq cqctggccct gggctcagcc gcactgggcg 150 ccgccttcgc cactggcctc ttcctgggga ggcggtgccc cccatggcga 200 ggccggcgag agcagtgcct gcttcccccc gaggacagcc gcctgtggca 250 gtatcttctg agccgctcca tgcgggagca cccggcgctg cgaagcctga 300 ggctgctgac cctggagcag ccgcaggggg attctatgat gacctgcgag 350 caqqeccaqe tettqqecaa cetqqeqeqq etcatecaqq ecaaqaagqe 400 gctggacctg ggcaccttca cgggctactc cgccctggcc ctggccctgg 450 cgctgcccgc ggacggcgc gtggtgacct gcgaggtgga cgcgcagccc 500 ccggagctgg gacggcccct gtggaggcag gccgaggcgg agcacaagat 550 cgacctccgg ctgaagcccg ccttggagac cctggacgag ctgctggcgg 600 cqqqcqaqqc cqqcaccttc qacqtggccg tggtggatgc ggacaaggag 650 aactgctccg cctactacga gcgctgcctg cagctgctgc gacccggagg 700 catcctcgcc gtcctcagag tcctgtggcg cgggaaggtg ctgcaacctc 750 cgaaagggga cgtggcggcc gagtgtgtgc gaaacctaaa cgaacgcatc 800 cggcgggacg tcagggtcta catcagcctc ctgcccctgg gcgatggact 850 caccttgqcc ttcaagatct agggctggcc cctagtgagt gggctcgagg 900 gagggttgcc tgggaacccc aggaattgac cctgagtttt aaattcgaaa 950 ataaagtggg gctgggacac aaaaaaaaaa aaaaaaaa 989

<210> 306

<211> 262

<212> PRT

<213> Homo sapiens

<400> 306

Met Thr Gln Pro Val Pro Arg Leu Ser Val Pro Ala Ala Leu Ala 1 5 10 15

Leu Gly Ser Ala Ala Leu Gly Ala Ala Phe Ala Thr Gly Leu Phe  $20 \\ 25 \\ 30$ 

Leu Gly Arg Arg Cys Pro Pro Trp Arg Gly Arg Arg Glu Gln Cys 35 40 45

Leu Leu Pro Pro Glu Asp Ser Arg Leu Trp Gln Tyr Leu Leu Ser 50 55 60

Arg Ser Met Arg Glu His Pro Ala Leu Arg Ser Leu Arg Leu Leu Thr Leu Glu Gln Pro Gln Gly Asp Ser Met Met Thr Cys Glu Gln Ala Gln Leu Leu Ala Asn Leu Ala Arg Leu Ile Gln Ala Lys Lys Ala Leu Asp Leu Gly Thr Phe Thr Gly Tyr Ser Ala Leu Ala Leu 110 Ala Leu Ala Leu Pro Ala Asp Gly Arg Val Val Thr Cys Glu Val Asp Ala Gln Pro Pro Glu Leu Gly Arg Pro Leu Trp Arg Gln Ala Glu Ala Glu His Lys Ile Asp Leu Arg Leu Lys Pro Ala Leu Glu 155 Thr Leu Asp Glu Leu Leu Ala Ala Gly Glu Ala Gly Thr Phe Asp 170 Val Ala Val Val Asp Ala Asp Lys Glu Asn Cys Ser Ala Tyr Tyr 195 185 Glu Arg Cys Leu Gln Leu Leu Arg Pro Gly Gly Ile Leu Ala Val 200 Leu Arg Val Leu Trp Arg Gly Lys Val Leu Gln Pro Pro Lys Gly 225 215 Asp Val Ala Ala Glu Cys Val Arg Asn Leu Asn Glu Arg Ile Arg 230 Arg Asp Val Arg Val Tyr Ile Ser Leu Leu Pro Leu Gly Asp Gly 245 250 255 Leu Thr Leu Ala Phe Lys Ile

260

<210> 307

<211> 2272

<212> DNA

<213> Homo sapiens

<400> 307

ccgccgccgc agccgctacc gccgctgcag ccgctttccg cggcctgggc 50 ctctcgccgt cagcatgcca cacgccttca agcccgggga cttggtgttc 100 gctaagatga agggctaccc tcactggcct gccaggatcg acgacatcgc 150 ggatggcgcc gtgaagcccc cacccaacaa gtaccccatc tttttctttg 200 gcacacacga aacagccttc ctgggaccca aggacctgtt cccctacgac 250

aaatgtaaag acaagtacgg gaagcccaac aagaggaaag gcttcaatga 300 agggctgtgg gagatccaga acaaccccca cgccagctac agcgcccctc 350 cgccagtgag ctcctccgac agcgaggccc ccgaggccaa ccccgccgac 400 ggcagtgacg ctgacgagga cgatgaggac cggggggtca tggccgtcac 450 ageggtaacc gccacagctg ccagcgacag gatggagagc gactcagact 500 cagacaagag tagcgacaac agtggcctga agaggaagac gcctgcgcta 550 aagatgtcgg tctcgaaacg agcccgaaag gcctccagcg acctggatca 600 ggccagcgtg tccccatccg aagaggagaa ctcggaaagc tcatctgagt 650 cggagaagac cagcgaccag gacttcacac ctgagaagaa agcagcggtc 700 cgggcgccac ggaggggccc tctgggggga cggaaaaaaa agaaggcgcc 750 gtcagcctcc gactccgact ccaaggccga ttcggacggg gccaagcctg 800 agecggtggc catggcgcgg tcggcgtcct cctcctcctc ttcctcctcc 850 tcctccgact ccgatgtgtc tgtgaagaag cctccgaggg gcaggaagcc 900 ageggagaag cetetecega ageeggagg geggaaaceg aageetgaac 950 ggcctccgtc cagctccagc agtgacagtg acagcgacga ggtggaccgc 1000 atcagtgagt ggaagcggcg ggacgaggcg cggaggcgcg agctggaggc 1050 ccggcggcgg cgagagcagg aggaggagct gcggcgcctg cgggagcagg 1100 agaaggagga gaaggaggg aggcggagc gggccgaccg cggggaggct 1150 gagcggggca gcggcggcag cagcggggac gagctcaggg aggacgatga 1200 gcccgtcaag aagcggggac gcaagggccg gggccggggt cccccgtcct 1250 cctctgactc cgagcccgag gccgagctgg agagagaggc caagaaatca 1300 gcgaagaagc cgcagtcctc aagcacagag cccgccagga aacctggcca 1350 gaaggagaag agagtgcggc ccgaggagaa gcaacaagcc aagcccgtga 1400 aggtggagcg gacccggaag cggtccgagg gcttctcgat ggacaggaag 1450 gtagagaaga agaaagagcc ctccgtggag gagaagctgc agaagctgca 1500 cagtgagatc aagtttgccc taaaggtcga cagcccggac gtgaagaggt 1550 gcctgaatgc cctagaggag ctgggaaccc tgcaggtgac ctctcagatc 1600 ctccagaaga acacagacgt ggtggccacc ttgaagaaga ttcgccgtta 1650 caaagcgaac aaggacgtaa tggagaaggc agcagaagtc tatacccggc 1700 tcaagtcgcg ggtcctcggc ccaaagatcg aggcggtgca gaaagtgaac 1750
aaggctggga tggagaagga gaaggccgag gagaagctgg ccggggagga 1800
gctggccggg gaggaggccc cccaggagaa ggcggaggac aagcccagca 1850
ccgatctctc agccccagtg aatggcgagg ccacatcaca gaagggggag 1900
agcgcagagg acaaggagca cgaggaggt cgggactcgg aggagggcc 1950
aaggtgtggc tcctctgaag acctgcacga cagcgtacgg gagggtcccg 2000
acctggacag gcctgggagc gaccggcagg agcgcgagag ggcacggggg 2050
gactcggagg ccctggacga ggagagctga gccgcgggca gccaggcca 2100
gcccccgccc gagctcagge tgcccctctc cttccccggc tcgcaggaga 2150
gcagagcaga gaactgtggg gaacgctgtg ctgtttgtat ttgttccctt 2200
gggtttttt ttcctgccta attctgtga tttccaacca acatgaaatg 2250
actataaacg gttttttaat ga 2272

<210> 308

<211> 671

<212> PRT

<213> Homo sapiens

<400> 308

Met Pro His Ala Phe Lys Pro Gly Asp Leu Val Phe Ala Lys Met
1 5 10 15

Lys Gly Tyr Pro His Trp Pro Ala Arg Ile Asp Asp Ile Ala Asp 20 25 30

Gly Ala Val Lys Pro Pro Pro Asn Lys Tyr Pro Ile Phe Phe Asp 45

Gly Thr His Glu Thr Ala Phe Leu Gly Pro Lys Asp Leu Phe Pro 50 55 60

Tyr Asp Lys Cys Lys Asp Lys Tyr Gly Lys Pro Asn Lys Arg Lys 65 70 75

Gly Phe Asn Glu Gly Leu Trp Glu Ile Gln Asn Asn Pro His Ala 80 85 90

Ser Tyr Ser Ala Pro Pro Pro Val Ser Ser Ser Asp Ser Glu Ala 95 100 105

Pro Glu Ala Asn Pro Ala Asp Gly Ser Asp Ala Asp Glu Asp Asp

Glu Asp Arg Gly Val Met Ala Val Thr Ala Val Thr Ala Thr Ala 125 130 135

Ala Ser Asp Arg Met Glu Ser Asp Ser Asp Ser Asp Lys Ser Ser

	140					145					150
Asp Asn Ser	Gly Leu 155	Lys	Arg	Lys	Thr	Pro 160	Ala	Leu	Lys	Met	Ser 165
Val Ser Lys	Arg Ala 170	Arg	Lys	Ala	Ser	Ser 175	Asp	Leu	Asp	Gln	Ala 180
Ser Val Ser	Pro Ser 185	Glu	Glu	Glu	Asn	Ser 190	Glu	Ser	Ser	Ser	Glu 195
Ser Glu Lys	Thr Ser 200	Asp	Gln	Asp	Phe	Thr 205	Pro	Glu	Lys	Lys	Ala 210
Ala Val Arg	Ala Pro 215	Arg	Arg	Gly	Pro	Leu 220	Gly	Gly	Arg	Lys	Lys 225
Lys Lys Ala	Pro Ser 230	Ala	Ser	Asp	Ser	Asp 235	Ser	Lys	Ala	Asp	Ser 240
Asp Gly Ala	Lys Pro 245		Pro	Val	Ala	Met 250	Ala	Arg	Ser	Ala	Ser 255
Ser Ser Ser	Ser Ser 260	Ser	Ser	Ser	Ser	Asp 265	Ser	Asp	Val	Ser	Val 270
Lys Lys Pro	Pro Arg 275	Gly	Arg	Lys	Pro	Ala 280	Glu	Lys	Pro	Leu	Pro 285
Lys Pro Arg	Gly Arg 290	Lys	Pro	Lys	Pro	Glu 295	Arg	Pro	Pro	Ser	Ser 300
Ser Ser Ser	Asp Ser 305	_	Ser	Asp	Glu	Val 310	Asp	Arg	Ile	Ser	Glu 315
Trp Lys Arg	Arg Asp 320		Ala	Arg	Arg	Arg 325	Glu	Leu	Glu	Ala	Arg 330
Arg Arg Arg	Glu Gln 335		Glu	Glu	Leu	Arg 340	Arg	Leu	Arg	Glu	Gln 345
Glu Lys Glu	Glu Lys 350		Arg	Arg	Arg	Glu 355	Arg	Ala	Asp	Arg	Gly 360
Glu Ala Glu	Arg Gly 365		Gly	Gly	Ser	Ser 370	Gly	Asp	Glu	Leu	Arg 375
Glu Asp Asp	Glu Pro		Lys	Lys	Arg	Gly 385	Arg	Lys	Gly	Arg	Gly 390
Arg Gly Pro	Pro Ser 395		Ser	Asp	Ser	Glu 400	Pro	Glu	Ala	Glu	Leu 405
Glu Arg Glu	Ala Lys 410	_	Ser	Ala	Lys	Lys 415	Pro	Gln	Ser	Ser	Ser 420
Thr Glu Pro	Ala Arg 425		Pro	Gly	Gln	Lys 430	Glu	Lys	Arg	Val	Arg 435

```
Pro Glu Glu Lys Gln Gln Ala Lys Pro Val Lys Val Glu Arg Thr
Arg Lys Arg Ser Glu Gly Phe Ser Met Asp Arg Lys Val Glu Lys
Lys Lys Glu Pro Ser Val Glu Glu Lys Leu Gln Lys Leu His Ser
Glu Ile Lys Phe Ala Leu Lys Val Asp Ser Pro Asp Val Lys Arg
Cys Leu Asn Ala Leu Glu Glu Leu Gly Thr Leu Gln Val Thr Ser
Gln Ile Leu Gln Lys Asn Thr Asp Val Val Ala Thr Leu Lys Lys
Ile Arg Arg Tyr Lys Ala Asn Lys Asp Val Met Glu Lys Ala Ala
Glu Val Tyr Thr Arg Leu Lys Ser Arg Val Leu Gly Pro Lys Ile
Glu Ala Val Gln Lys Val Asn Lys Ala Gly Met Glu Lys Glu Lys
Ala Glu Glu Lys Leu Ala Gly Glu Glu Leu Ala Gly Glu Glu Ala
                575
Pro Gln Glu Lys Ala Glu Asp Lys Pro Ser Thr Asp Leu Ser Ala
Pro Val Asn Gly Glu Ala Thr Ser Gln Lys Gly Glu Ser Ala Glu
Asp Lys Glu His Glu Glu Gly Arg Asp Ser Glu Glu Gly Pro Arg
Cys Gly Ser Ser Glu Asp Leu His Asp Ser Val Arg Glu Gly Pro
                                     640
                635
Asp Leu Asp Arg Pro Gly Ser Asp Arg Gln Glu Arg Glu Arg Ala
                650
Arg Gly Asp Ser Glu Ala Leu Asp Glu Glu Ser
```

<210> 309

<211> 3871

<212> DNA

<213> Homo sapiens

665

<400> 309

gttggttctc ctggatcttc accttaccaa ctgcagatct tgggactcat 50 cagcctcaat aattatatta aattaacacc atttgaaaga gaacattgtt 100

ttcatcatga atgctaataa agatgaaaga cttaaagcca gaagccaaga 150 ttttcacctt tttcctgctt tgatgatgct aagcatgacc atgttgtttc 200 ttccagtcac tggcactttg aagcaaaata ttccaagact caagctaacc 250 tacaaagact tgctgctttc aaatagctgt attccctttt tgggttcatc 300 agaaggactg gattttcaaa ctcttctctt agatgaggaa agaggcaggc 350 tgctcttggg agccaaagac cacatctttc tactcagtct ggttgactta 400 aacaaaaatt ttaagaagat ttattggcct gctgcaaagg aacgggtgga 450 attatgtaaa ttagctggga aagatgccaa tacagaatgt gcaaatttca 500 tcagagtact tcagccctat aacaaaactc acatatatgt gtgtggaact 550 ggagcatttc atccaatatg tgggtatatt gatcttggag tctacaagga 600 ggatattata ttcaaactag acacacataa tttggagtct ggcagactga 650 aatgtccttt cgatcctcag cagccttttg cttcagtaat gacagatgag 700 tacctctact ctggaacagc ttctgatttc cttggcaaag atactgcatt 750 cactcgatcc cttgggccta ctcatgacca ccactacatc agaactgaca 800 tttcagagca ctactggctc aatggagcaa aatttattgg aactttcttc 850 ataccagaca cctacaatcc agatgatgat aaaatatatt tcttctttcg 900 tgaatcatct caagaaggca gtacctccga taaaaccatc ctttctcgag 950 ttggaagagt ttgtaagaat gatgtaggag gacaacgcag cctgataaac 1000 aagtggacga cttttcttaa ggccagactg atttgctcaa ttcctggaag 1050 tgatggggca gatacttact ttgatgagct tcaagatatt tatttactcc 1100 ccacaagaga tgaaagaaat cctgtagtat atggagtctt tactacaacc 1150 agctccatct tcaaaggctc tgctgtttgt gtgtatagca tggctgacat 1200 cagagcagtt tttaatggtc catatgctca taaggaaagt gcagaccatc 1250 gttgggtgca gtatgatggg agaatteett atceaeggee tggtaeatgt 1300 ccaagcaaaa cctatgaccc actgattaag tccacccgag attttccaga 1350 tgatgtcatc agtttcataa agcggcactc tgtgatgtat aagtccgtat 1400 acccagttgc aggaggacca acgttcaaga gaatcaatgt ggattacaga 1450 ctgacacaga tagtggtgga tcatgtcatt gcagaagatg gccagtacga 1500 tgtaatgttt cttggaacag acattggaac tgtcctcaaa gttgtcagca 1550

tttcaaagga aaagtggaat atggaagagg tagtgctgga ggagttgcag 1600 atattcaagc actcatcaat catcttgaac atggaattgt ctctgaagca 1650 gcaacaattg tacattggtt cccgagatgg attagttcag ctctccttgc 1700 acagatgcga cacttatggg aaagcttgcg cagactgttg tcttgccaga 1750 gacccctact gtgcctggga tggaaatgca tgctctcgat atgctcctac 1800 ttctaaaagg agagctagac gccaagatgt aaaatatggc gacccaatca 1850 cccagtgctg ggacatcgaa gacagcatta gtcatgaaac tgctgatgaa 1900 aaggtgattt ttggcattga atttaactca acctttctgg aatgtatacc 1950 taaatcccaa caagcaacta ttaaatggta tatccagagg tcaggggatg 2000 agcatcgaga ggagttgaag cccgatgaaa gaatcatcaa aacggaatat 2050 gggctactga ttcgaagttt gcagaagaag gattctggga tgtattactg 2100 caaagcccag gagcacactt tcatccacac catagtgaag ctgactttga 2150 atgtcattga gaatgaacag atggaaaata cccagagggc agagcatgag 2200 gaggggcagg tcaaggatct attggctgag tcacggttga gatacaaaga 2250 ctacatccaa atccttagca gcccaaactt cagcctcgac cagtactgcg 2300 aacagatgtg gcacagggag aagcggagac agagaaacaa ggggggccca 2350 aagtggaagc acatgcagga aatgaagaag aaacgaaatc gaagacatca 2400 cagagacctg gatgagctcc ctagagctgt agccacgtag ttttctactt 2450 aatttaaaga aaagaattcc ttacctataa aaacattgcc ttctgttttg 2500 tatatccctt atagtaattc ataaatgctt cccatggagt tttgctaagg 2550 cacaagacaa taatctgaat aagacaatat gtgatgaata taagaaaggg 2600 caaaaaattc atttgaacca gttttccaag aacaaatctt gcacaagcaa 2650 agtataagaa ttatcctaaa aatagggggt ttacagttgt aaatgtttta 2700 tgttttgagt tttggaattt attgtcatgt aaatagttga gctaagcaag 2750 ccccgaattt gatagtgtat aaggtgcttt attccctcga atgtccatta 2800 agcatggaat ttaccatgca gttgtgctat gttcttatga acagatatat 2850 cattectatt gagaaccage tacettgtgg tagggaataa gaggteagae 2900 acaaattaag acaactccca ttatcaacag gaactttctc agtgagccat 2950 tcactcctgg agaatggtat aggaatttgg agaggtgcat tatttctttc 3000

tggccactgg ggttaaattt agtgtactac aacattgatt tactgaaggg 3050 cactaatgtt tcccccagga tttctattga ctagtcagga gtaacaggtt 3100 cacagagaga agttggtgct tagttatgtg ttttttagag tatatactaa 3150 gctctacagg gacagaatgc ttaataaata ctttaataag atatgggaaa 3200 atattttaat aaaacaagga aaacataatg atgtataatg catcctgatg 3250 ggaaggcatg cagatgggat ttgttagaag acagaaggaa agacagccat 3300 aaattctggc tttggggaaa actcatatcc ccatgaaaag gaagaacaat 3350 cacaaataaa gtgagagtaa tgtaatggag ctcttttcac tagggtataa 3400 gtagctgcca atttgtaatt catctgttaa aaaaaatcta gattataaca 3450 aactgctagc aaaatctgag gaaacataaa ttcttctgaa gaatcatagg 3500 aagagtagac attttattta taaccaatga tatttcagta tatattttct 3550 ctcttttaaa aaatatttat catactctgt atattatttc tttttactgc 3600 ctttattctc tcctgtatat tggattttgt gattatattt gagtgaatag 3650 gagaaaacaa tatataacac acagagaatt aagaaaatga catttctggg 3700 gagtggggat atatatttgt tgaataacag aacgagtgta aaattttaac 3750 aacggaaagg gttaaattaa ctctttgaca tcttcactca accttttctc 3800 attgctgagt taatctgttg taattgtagt attgtttttg taatttaaca 3850 ataaataagc ctgctacatg t 3871

<210> 310 <211> 777

<212> PRT

<213> Homo sapiens

<400> 310

Met Asn Ala Asn Lys Asp Glu Arg Leu Lys Ala Arg Ser Gln Asp
1 5 10 15

Phe His Leu Phe Pro Ala Leu Met Met Leu Ser Met Thr Met Leu 20 25 30

Phe Leu Pro Val Thr Gly Thr Leu Lys Gln Asn Ile Pro Arg Leu 35 40 45

Lys Leu Thr Tyr Lys Asp Leu Leu Ser Asn Ser Cys Ile Pro 50 55 60

Phe Leu Gly Ser Ser Glu Gly Leu Asp Phe Gln Thr Leu Leu Leu 65 70 75

Asp Glu Glu Arg Gly Arg Leu Leu Gly Ala Lys Asp His Ile

				80					85					90
Phe	Leu	Leu	Ser	Leu 95	Val	Asp	Leu	Asn	Lys 100	Asn	Phe	Lys	Lys	Ile 105
Tyr	Trp	Pro	Ala	Ala 110	Lys	Glu	Arg	Val	Glu 115	Leu	Cys	Lys	Leu	Ala 120
Gly	Lys	Asp	Ala	Asn 125	Thr	Glu	Cys	Ala	Asn 130	Phe	Ile	Arg	Val	Leu 135
Gln	Pro	Tyr	Asn	Lys 140	Thr	His	Ile	Tyr	Val 145	Cys	Gly	Thr	Gly	Ala 150
Phe	His	Pro	Ile	Cys 155	Gly	Tyr	Ile	Asp	Leu 160	Gly	Val	Tyr	Lys	Glu 165
Asp	Ile	Ile	Phe	Lys 170	Leu	Asp	Thr	His	Asn 175	Leu	Glu	Ser	Gly	Arg 180
Leu	Lys	Cys	Pro	Phe 185	Asp	Pro	Gln	Gln	Pro 190	Phe	Ala	Ser	Val	Met 195
Thr	Asp	Glu	Tyr	Leu 200	Tyr	Ser	Gly	Thr	Ala 205	Ser	Asp	Phe	Leu	Gly 210
Lys	Asp	Thr	Ala	Phe 215	Thr	Arg	Ser	Leu	Gly 220	Pro	Thr	His	Asp	His 225
His	Tyr	Ile	Arg	Thr 230	Asp	Ile	Ser	Glu	His 235	Tyr	Trp	Leu	Asn	Gly 240
Ala	Lys	Phe	Ile	Gly 245	Thr	Phe	Phe	Ile	Pro 250	Asp	Thr	Tyr	Asn	Pro 255
Asp	Asp	Asp	Lys	Ile 260	Tyr	Phe	Phe	Phe	Arg 265	Glu	Ser	Ser	Gln	Glu 270
Gly	Ser	Thr	Ser	Asp 275	Lys	Thr	Ile	Leu	Ser 280	Arg	Val	Gly	Arg	Val 285
Cys	Lys	Asn	Asp	Val 290	Gly	Gly	Gln	Arg	Ser 295	Leu	Ile	Asn	Lys	Trp 300
Thr	Thr	Phe	Leu	Lys 305	Ala	Arg	Leu	Ile	Cys 310	Ser	Ile	Pro	Gly	Ser 315
Asp	Gly	Ala	Asp	Thr 320	Tyr	Phe	Asp	Glu	Leu 325	Gln	Asp	Ile	Tyr	Leu 330
Leu	Pro	Thr	Arg	Asp 335	Glu	Arg	Asn	Pro	Val 340	Val	Tyr	Gly	Val	Phe 345
Thr	Thr	Thr	Ser	Ser 350	Ile	Phe	Lys	Gly	Ser 355	Ala	Val	Cys	Val	Tyr 360
Ser	Met	Ala	Asp	Ile 365	Arg	Ala	Val	Phe	Asn 370	Gly	Pro	Tyr	Ala	His 375

Lys	Glu	Ser	Ala	Asp 380	His	Arg	Trp	Val	Gln 385	Tyr	Asp	Gly	Arg	Ile 390
Pro	Tyr	Pro	Arg	Pro 395	Gly	Thr	Cys	Pro	Ser 400	Lys	Thr	Tyr	Asp	Pro 405
Leu	Ile	Lys	Ser	Thr 410	Arg	Asp	Phe	Pro	Asp 415	Asp	Val	Ile	Ser	Phe 420
Ile	Lys	Arg	His	Ser 425	Val	Met	Tyr	Lys	Ser 430	Val	Tyr	Pro	Val	Ala 435
Gly	Gly	Pro	Thr	Phe 440	Lys	Arg	Ile	Asn	Val 445	Asp	Tyr	Arg	Leu	Thr 450
Gln	Ile	Val	Val	Asp 455	His	Val	Ile	Ala	Glu 460	Asp	Gly	Gln	Tyr	Asp 465
Val	Met	Phe	Leu	Gly 470	Thr	Asp	Ile	Gly	Thr 475	Val	Leu	Lys	Val	Val 480
Ser	Ile	Ser	Lys	Glu 485	Lys	Trp	Asn	Met	Glu 490	Glu	Val	Val	Leu	Glu 495
Glu	Leu	Gln	Ile	Phe 500	Lys	His	Ser	Ser	Ile 505	Ile	Leu	Asn	Met	Glu 510
Leu	Ser	Leu	Lys	Gln 515	Gln	Gln	Leu	Tyr	Ile 520	Gly	Ser	Arg	Asp	Gly 525
Leu	Val	Gln	Leu	Ser 530	Leu	His	Arg	Cys	Asp 535	Thr	Tyr	Gly	Lys	Ala 540
Cys	Ala	Asp	Cys	Cys 545		Ala			Pro 550		Cys		Trp	Asp 555
Gly	Asn	Ala	Cys	Ser 560	Arg	Tyr	Ala	Pro	Thr 565	Ser	Lys	Arg	Arg	Ala 570
Arg	Arg	Gln	Asp	Val 575	Lys	Tyr	Gly	Asp	Pro 580	Ile	Thr	Gln	Cys	Trp 585
Asp	Ile	Glu	Asp	Ser 590	Ile	Ser	His	Glu	Thr 595	Ala	Asp	Glu	Lys	Val 600
Ile	Phe	Gly	Ile	Glu 605	Phe	Asn	Ser	Thr	Phe 610	Leu	Glu	Cys	Ile	Pro 615
Lys	Ser	Gln	Gln	Ala 620	Thr	Ile	Lys	Trp	Tyr 625	Ile	Gln	Arg	Ser	Gly 630
Asp	Glu	His	Arg	Glu 635	Glu	Leu	Lys	Pro	Asp 640	Glu	Arg	Ile	Ile	Lys 645
Thr	Glu	Tyr	Gly	Leu 650	Leu	Ile	Arg	Ser	Leu 655	Gln	Lys	Lys	Asp	Ser 660
Gly	Met	Tyr	Tyr	Cys	Lys	Ala	Gln	Glu	His	Thr	Phe	Ile	His	Thr

	665		670	675							
Ile Val Lys Leu	Thr Leu A:	sn Val Ile	Glu Asn Glu 685	Gln Met Glu 690							
Asn Thr Gln Arg	Ala Glu H: 695	is Glu Glu	Gly Gln Val 700	Lys Asp Leu 705							
Leu Ala Glu Ser	Arg Leu A	rg Tyr Lys	Asp Tyr Ile 715	Gln Ile Leu 720							
Ser Ser Pro Asn	Phe Ser Le	eu Asp Gln	Tyr Cys Glu 730	Gln Met Trp 735							
His Arg Glu Lys	Arg Arg G	ln Arg Asn	Lys Gly Gly 745	Pro Lys Trp 750							
Lys His Met Gln	Glu Met Ly 755	ys Lys Lys	Arg Asn Arg 760	Arg His His 765							
Arg Asp Leu Asp	Glu Leu P 770	ro Arg Ala	Val Ala Thr 775								
<210> 311 <211> 25 <212> DNA <213> Artificial											
<220> <221> Artificial <222> 1-25 <223> Synthetic	_										
<400> 311 caacgcagcc gtga	taaaca agt	gg 25									
<210> 312 <211> 24 <212> DNA <213> Artificial											
<220> <221> Artificial Sequence <222> 1-24 <223> Synthetic construct.											
<400> 312 gcttggacat gtac	caggcc gtg	g 24									
<210> 313 <211> 45 <212> DNA <213> Artificial											
<220> <221> Artificial <222> 1-45 <223> Synthetic											

<400> 313 ggccagactg atttgctcaa ttcctggaag tgatggggca gatac 45

<210> 314 <211> 3934

<212> DNA

<213> Homo sapiens <400> 314 ccctgacctc cctgagccac actgagctgg aagccgcaga ggtcatcctg 50 gagcatgece acegeggga geagacaace teceaggtaa getgggagea 100

ctcagcagtt tcagccagca gggactgatc aggtgtgtgt cctggagtgg 200 ggagcagaag gcgtggctgg caagagtggc ctggagaaag aggttcagcg 250 cttgaccage egagetgeee gtgactacaa gatecagaac catgggeate 300 gggtgaggtg ggggggcaca ggtgtcatgt gcaccttctt gtctcagcaa 350 gaagagctga gagaggggat cttggagcca ttgagggtgt catggagcta 400 cagaggggag ggaaaggtat tttaaggtaa cagtgtggca caatagttaa 450 gagcacagtt tttggagcta gaccgacata ggttcaaatt ctcttctgtt 500 gcttcctagt tctgtagccc caggtaaggg agtgacttaa cctctctgga 550 cttcaatttc ctcatcacta aagtagggcc aataatagca cccacctcat 600 agggaagatt aaatgacata atgtatgtga tgcaactagc aaagtaccag 650 teccatagta agteatgeec cacagtattt ceaeceaece etgttetetg 700 ccttcccaac caggtactgc aacgactgga gcagaggcgg cagcaggctt 750 cagageggga ggetecaage atagaacaga ggttacagga agtgegagag 800 agcatccgcc gggcacaggt gagccaggtg aagggggctg cccggctggc 850 cctgctgcag ggggctggct tagatgtgga gcgctggctg aagccagcca 900 tgacccaggc ccaggatgag gtggagcagg agcggcggct cagtgaggct 950 cggctgtccc agagggacct ctctccaacc gctgaggatg ctgagctttc 1000

tgactttgag gaatgtgagg agacgggaga gctctttgag gagcctgccc 1050

cccaagccct ggccacgagg gccctcccct gccctgcaca cgtggtattt 1100

cgctatcagg cagggcgtga ggatgagctg acaatcacgg agggtgagtg 1150

gctggaggtc atagaggagg gagatgctga cgaatgggtc aaggctcgga 1200

accagcacgg cgaggtaggc tttgtccctg agcgatatct caacttcccg 1250

gacctctccc tcccagagag cagccaagac agtgacaatc cctgcggggc 1300 agageceaca geatteetgg cacaggeett gtacagetae aceggaeaga 1350 gtgcagagga gctgagcttc cctgaggggg cactcatccg tctgctgccc 1400 cgggcccaag atggagtaga tgacggcttc tggaggggag aatttggggg 1450 ccgtgttggg gtcttcccct ccctgctggt ggaagagctg cttggccccc 1500 cagggccacc tgaactctct gaccctgaac agatgctgcc gtccccttct 1550 cctcccagct tctccccacc tgcacctacc tctgtgttgg atgggccccc 1600 tgcacctgtc ctgcctgggg acaaagccct ggacttccct gggttcctgg 1650 acatgatggc acctegacte aggregatge gtecaceace tececegeeg 1700 gctaaagccc cggatcctgg ccacccagat cccctcacct gaaggccagg 1750 gaagcettga cececagtga tgetgetgte cetatettea agetgteaga 1800 ccacaccatc aatgatccag agcaacacag ccaaaagctg gaatcgccct 1850 tatttccacc ctcacctcca agggtggaaa cttgcccctt cccatttcta 1900 gagctggaac ccactccttt ttttcccatt gttctatcat ctctaggacc 1950 ggaactacta cettetete tgtcatgace ctatetaggg tggtgaaatg 2000 cctgaaatct ctggggctgg aaaccatcca tcaaggtctc tagtagttct 2050 ggcccacctc tttccccacc ctggctccat gacccacccc actctggatg 2100 ccagggtcac tggggttggg ctggggagag gaacaggcct tgggaatcag 2150 gagctggagc caggatgcga agcagctgta atggtctgag cggatttatt 2200 gacaatgaat aaagggcacg aaggccaggc cagggcctgg gcctcttgtg 2250 ctaagagggc agggggccta cggtgctatt gctttagggg cccaccacgg 2300 gcaggggcct gctcccagct gccacgctct atcatatgga gcgaggtgtt 2350 ggggaaggcg gggcaggcag cctgttgcag gcaggggaag gagaagagac 2400 tgaggggctg tgacctctcc tgaggccccc agcctgagac tgtgcaactc 2450 caggtggaag tagagctggt ccctcagctg gggggcagtg ctgtccagtg 2500 gaggggaggg ctttcacgcc cacccacccc ctggccctgc cagctggtag 2550 tccatcagca caatgaagga gacttggaga agaggaagaa taacactgtt 2600 gcttcctgtt caagctgtgt ccagcttttc ccctggggct ccaggacctt 2650 ccctacctcc accaccaaac caagggattt atagcaaagg ctaagcctgc 2700

```
agtttactct gggggttcag ggagccgaaa ggcttaaata gtttaagtag 2750
gtgatgggaa gatgagatta cctcatttag ggctcaggca gactcacctc 2800
tcaacaatga gagaccagga gtaggtccta tcagtgcccc ccagagtaga 2900
gagcaataag agcccagccc agtgcagtcc cggctgtgtt ttcctacctg 2950
gtgatcagaa gtgtctggtt tgcttggctg cccatttgcc tcttgagtgg 3000
gcagccctgg gcttgggccc ctccctccgg ccctcagtgt tggctctgca 3050
gaagetetgg ggtteeette aagtgeaega ggggttagge tgetgteeet 3100
gagtcctcca ttctgtactg gggggctggc taggacctgg ggctgtggcc 3150
tctcaggggg cagcctctcc atggcaggca tccctgcctt gggctgccct 3200
ccccagacc cctgaccacc ccctgggtcc tgtccccac cagagcccca 3250
gctcctgtct gtgggggagc catcacggtg ttcgtgcagt ccatagcgct 3300
tctcaatgtg tgtcacccgg aacctgggag gggagggaac actggggttt 3350
aggaccacaa ctcagaggct gcttggccct cccctctgac cagggacatc 3400
ctgagtttgg tggctacttc cctctggcct aaggtagggg aggccttctc 3450
agattgtggg gcacattgtg tagcctgact tctgctggag ctcccagtcc 3500
aggaggaaag agccaaggcc cacttttggg atcaggtgcc tgatcactgg 3550
gccccctacc tcagccccc tttccctgga gcacctgccc cacctgccca 3600
gagcgtccct gacggacaag tggaggcctc ttgctgcggc tgcaatggat 3700
gcaaggggct gcagagccca ggtgcactgt gtgatgatgg gagggggctc 3750
cgtcctgcag gctggaggtg gcatccacac tggacagcag gaggagggga 3800
gtgagggtaa catttccatt tecetteatg ttttgtttet taegttettt 3850
cagcatgete ettaaaacce cagaageeee aattteeeea ageeecattt 3900
tttcttgtct ttatctaata aactcaatat taag 3934
```

<sup>&</sup>lt;210> 315

<sup>&</sup>lt;211> 370

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 315

Met Gln Leu Ala Lys Tyr Gln Ser His Ser Lys Ser Cys Pro Thr 1 5 10

Val Phe Pro Pro Thr Pro Val Leu Cys Leu Pro Asn Gln Val Leu Gln Arg Leu Glu Gln Arg Arg Gln Gln Ala Ser Glu Arg Glu Ala Pro Ser Ile Glu Gln Arg Leu Gln Glu Val Arg Glu Ser Ile Arg Arg Ala Gln Val Ser Gln Val Lys Gly Ala Ala Arg Leu Ala Leu Leu Gln Gly Ala Gly Leu Asp Val Glu Arg Trp Leu Lys Pro Ala Met Thr Gln Ala Gln Asp Glu Val Glu Gln Glu Arg Arg Leu Ser Glu Ala Arg Leu Ser Gln Arg Asp Leu Ser Pro Thr Ala Glu Asp Ala Glu Leu Ser Asp Phe Glu Glu Cys Glu Glu Thr Gly Glu Leu Phe Glu Glu Pro Ala Pro Gln Ala Leu Ala Thr Arg Ala Leu Pro 140 150 Cys Pro Ala His Val Val Phe Arg Tyr Gln Ala Gly Arg Glu Asp Glu Leu Thr Ile Thr Glu Gly Glu Trp Leu Glu Val Ile Glu Glu 170 Gly Asp Ala Asp Glu Trp Val Lys Ala Arg Asn Gln His Gly Glu Val Gly Phe Val Pro Glu Arg Tyr Leu Asn Phe Pro Asp Leu Ser 200 205 210 Leu Pro Glu Ser Ser Gln Asp Ser Asp Asn Pro Cys Gly Ala Glu Pro Thr Ala Phe Leu Ala Gln Ala Leu Tyr Ser Tyr Thr Gly Gln 230 Ser Ala Glu Glu Leu Ser Phe Pro Glu Gly Ala Leu Ile Arg Leu 245 Leu Pro Arg Ala Gln Asp Gly Val Asp Asp Gly Phe Trp Arg Gly 260 Glu Phe Gly Gly Arg Val Gly Val Phe Pro Ser Leu Leu Val Glu 280 Glu Leu Leu Gly Pro Pro Gly Pro Pro Glu Leu Ser Asp Pro Glu 290 300 Gln Met Leu Pro Ser Pro Ser Pro Pro Ser Phe Ser Pro Pro Ala

				305					310					315
Pro	Thr	Ser	Val	Leu 320	Asp	Gly	Pro	Pro	Ala 325	Pro	Val	Leu	Pro	Gly 330
Asp	Lys	Ala	Leu	Asp 335	Phe	Pro	Gly	Phe	Leu 340	Asp	Met	Met	Ala	Pro 345
Arg	Leu	Arg	Pro	Met 350	Arg	Pro	Pro	Pro	Pro 355	Pro	Pro	Ala	Lys	Ala 360
Pro	Asp	Pro	Gly	His 365	Pro	Asp	Pro	Leu	Thr 370					
<2112 <212	<210> 316 <211> 4407 <212> DNA <213> Homo sapiens													
<4002 caca		6 aga d	ccca	cagad	ca ca	atato	gcaco	g aga	agaga	acag	agga	aggaa	aag	50
agag	canac	Tac a	aaaa	rcaca	aa ca	าตลลด	raagg	r cac	ragag	ragg	gcag	racae	cad	100

agacagagac aaaggcacag cggaagaagg cagagacagg gcaggcacag 100 aagcggccca gacagagtcc tacagaggga gaggccagag aagctgcaga 150 agacacagge agggagagac aaagatccag gaaaggaggg ctcaggagga 200 gagtttggag aagccagacc cctgggcacc tctcccaagc ccaaggacta 250 agttttctcc atttccttta acggtcctca gcccttctga aaactttgcc 300 tctgaccttg gcaggagtcc aagcccccag gctacagaga ggagctttcc 350 aaagctaggg tgtggaggac ttggtgccct agacggcctc agtccctccc 400 agctgcagta ccagtgccat gtcccagaca ggctcgcatc ccgggagggg 450 cttggcaggg cgctggctgt ggggagccca accetgcetc ctgctcccca 500 ttgtgccgct ctcctggctg gtgtggctgc ttctgctact gctggcctct 550 ctcctgccct cagcccggct ggccagcccc ctccccggg aggaggagat 600 cgtgtttcca gagaagctca acggcagcgt cctgcctggc tcgggcgccc 650 ctgccaggct gttgtgccgc ttgcaggcct ttgggggagac gctgctacta 700 gagctggagc aggactccgg tgtgcaggtc gaggggctga cagtgcagta 750 cctgggccag gcgcctgagc tgctgggtgg agcagagcct ggcacctacc 800 tgactggcac catcaatgga gatccggagt cggtggcatc tctgcactgg 850 gatgggggag ccctgttagg cgtgttacaa tatcgggggg ctgaactcca 900 cctccagccc ctggagggag gcacccctaa ctctgctggg ggacctgggg 950

ctcacatcct acgccggaag agtcctgcca gcggtcaagg tcccatgtgc 1000 aacgtcaagg ctcctcttgg aagccccagc cccagacccc gaagagccaa 1050 gcgctttgct tcactgagta gatttgtgga gacactggtg gtggcagatg 1100 acaagatgge egeatteeae ggtgegggge taaagegeta eetgetaaca 1150 gtgatggcag cagcagccaa ggccttcaag cacccaagca tccgcaatcc 1200 tgtcagcttg gtggtgactc ggctagtgat cctggggtca ggcgaggagg 1250 ggccccaagt ggggcccagt gctgcccaga ccctgcgcag cttctgtgcc 1300 tggcagcggg gcctcaacac ccctgaggac tcgggccctg accactttga 1350 cacagecatt ctgtttaccc gtcaggacct gtgtggagtc tccacttgcg 1400 acacgctggg tatggctgat gtgggcaccg tctgtgaccc ggctcggagc 1450 tgtgccattg tggaggatga tgggctccag tcagccttca ctgctgctca 1500 tgaactgggt catgtcttca acatgctcca tgacaactcc aagccatgca 1550 tcagtttgaa tgggcctttg agcacctctc gccatgtcat ggcccctgtg 1600 atggctcatg tggatcctga ggagccctgg tccccctgca gtgcccgctt 1650 catcactgac ttcctggaca atggctatgg gcactgtctc ttagacaaac 1700 cagaggetee attgeatetg cetgtgaett teeetggeaa ggaetatgat 1750 gctgaccgcc agtgccagct gaccttcggg cccgactcac gccattgtcc 1800 acagetgeeg eegeeetgtg etgeeetetg gtgetetgge caceteaatg 1850 gccatgccat gtgccagacc aaacactcgc cctgggccga tggcacaccc 1900 tgcgggcccg cacaggcctg catgggtggt cgctgcctcc acatggacca 1950 gctccaggac ttcaatattc cacaggctgg tggctggggt ccttggggac 2000 catggggtga ctgctctcgg acctgtgggg gtggtgtcca gttctcctcc 2050 cgagactgca cgaggcctgt cccccggaat ggtggcaagt actgtgaggg 2100 ccgccgtacc cgcttccgct cctgcaacac tgaggactgc ccaactggct 2150 cagecetgae etteegegag gageagtgtg etgeetacaa ceaeegeace 2200 gacctcttca agagcttccc agggcccatg gactgggttc ctcgctacac 2250 aggcgtggcc ccccaggacc agtgcaaact cacctgccag gcccgggcac 2300 tgggctacta ctatgtgctg gagccacggg tggtagatgg gaccccctgt 2350 teceeggaea geteeteggt etgtgteeag ggeegatgea tecatgetgg 2400

ctgtgatcgc atcattggct ccaagaagaa gtttgacaag tgcatggtgt 2450 gcggagggga cggttctggt tgcagcaagc agtcaggctc cttcaggaaa 2500 ttcaggtacg gatacaacaa tgtggtcact atccccgcgg gggccaccca 2550 cattettgtc eggeageagg gaaaccetgg ceaeeggage atetaettgg 2600 ccctgaagct gccagatggc tcctatgccc tcaatggtga atacacgctg 2650 atgccctccc ccacagatgt ggtactgcct ggggcagtca gcttgcgcta 2700 cageggggee actgeageet cagagacaet gteaggeeat gggeeaetgg 2750 cccagccttt gacactgcaa gtcctagtgg ctggcaaccc ccaggacaca 2800 cgcctccgat acagcttctt cgtgccccgg ccgacccctt caacgccacg 2850 ccccactccc caggactggc tgcaccgaag agcacagatt ctggagatcc 2900 ttcggcggcg cccctgggcg ggcaggaaat aacctcacta tcccggctgc 2950 cctttctggg caccggggcc tcggacttag ctgggagaaa gagagagctt 3000 ctgttgctgc ctcatgctaa gactcagtgg ggaggggctg tgggcgtgag 3050 acctgcccct cctctctgcc ctaatgcgca ggctggccct gccctggttt 3100 cctgccctgg gaggcagtga tgggttagtg gatggaaggg gctgacagac 3150 agccctccat ctaaactgcc ccctctgccc tgcgggtcac aggagggagg 3200 gggaaggcag ggagggcctg ggccccagtt gtatttattt agtatttatt 3250 cacttttatt tagcaccagg gaaggggaca aggactaggg tcctggggaa 3300 cctgacccct gacccctcat agccctcacc ctggggctag gaaatccagg 3350 gtggtggtga taggtataag tggtgtgtgt atgcgtgtgt gtgtgtgtt 3400 gaaaatgtgt gtgtgcttat gtatgaggta caacctgttc tgctttcctc 3450 ttcctgaatt ttattttttg ggaaaagaaa agtcaagggt agggtgggcc 3500 ttcagggagt gagggattat ctttttttt ttttctttct ttctttcttt 3550 tttttttttg agacagaatc tcgctctgtc gcccaggctg gagtgcaatg 3600 gcacaatctc ggctcactgc atcctccgcc tcccgggttc aagtgattct 3650 catgcctcag cctcctgagt agctgggatt acaggctcct gccaccacgc 3700 ccagctaatt tttgttttgt tttgtttgga gacagagtct cgctattgtc 3750 accagggctg gaatgatttc agctcactgc aaccttcgcc acctgggttc 3800 cagcaattct cctgcctcag cctcccgagt agctgagatt ataggcacct 3850

- <210> 317
- <211> 837
- <212> PRT
- <213> Homo sapiens

## <400> 317

- Met Ser Gln Thr Gly Ser His Pro Gly Arg Gly Leu Ala Gly Arg
  1 5 10 15
- Trp Leu Trp Gly Ala Gln Pro Cys Leu Leu Pro Ile Val Pro 20 25 30
- Leu Ser Trp Leu Val Trp Leu Leu Leu Leu Leu Leu Ala Ser Leu 35 40 45
- Leu Pro Ser Ala Arg Leu Ala Ser Pro Leu Pro Arg Glu Glu Glu 50 55 60
- Ile Val Phe Pro Glu Lys Leu Asn Gly Ser Val Leu Pro Gly Ser
  65 70 75
- Gly Ala Pro Ala Arg Leu Cys Arg Leu Gln Ala Phe Gly Glu 80 85 90
- Thr Leu Leu Glu Leu Glu Gln Asp Ser Gly Val Gln Val Glu
  95 100 105
- Gly Leu Thr Val Gln Tyr Leu Gly Gln Ala Pro Glu Leu Leu Gly
  110 115 120
- Gly Ala Glu Pro Gly Thr Tyr Leu Thr Gly Thr Ile Asn Gly Asp 125 130 135
- Pro Glu Ser Val Ala Ser Leu His Trp Asp Gly Gly Ala Leu Leu

				140					145					150
Gly	Val	Leu	Gln	Tyr 155	Arg	Gly	Ala	Glu	Leu 160	His	Leu	Gln	Pro	Leu 165
Glu	Gly	Gly	Thr	Pro 170	Asn	Ser	Ala	Gly	Gly 175	Pro	Gly	Ala	His	Ile 180
Leu	Arg	Arg	Lys	Ser 185	Pro	Ala	Ser	Gly	Gln 190	Gly	Pro	Met	Cys	Asn 195
Val	Lys	Ala	Pro	Leu 200	Gly	Ser	Pro	Ser	Pro 205	Arg	Pro	Arg	Arg	Ala 210
Lys	Arg	Phe	Ala	Ser 215	Leu	Ser	Arg	Phe	Val 220	Glu	Thr	Leu	Val	Val 225
Ala	Asp	Asp	Lys	Met 230	Ala	Ala	Phe	His	Gly 235	Ala	Gly	Leu	Lys	Arg 240
Tyr	Leu	Leu	Thr	Val 245	Met	Ala	Ala	Ala	Ala 250	Lys	Ala	Phe	Lys	His 255
Pro	Ser	Ile	Arg	Asn 260	Pro	Val	Ser	Leu	Val 265	Val	Thr	Arg	Leu	Val 270
Ile	Leu	Gly	Ser	Gly 275	Glu	Glu	Gly	Pro	Gln 280	Val	Gly	Pro	Ser	Ala 285
Ala	Gln	Thr	Leu	Arg 290	Ser	Phe	Cys	Ala	Trp 295	Gln	Arg	Gly	Leu	Asn 300
Thr	Pro	Glu	Asp	Ser 305	Gly	Pro	Asp	His	Phe 310	Asp	Thr	Ala	Ile	Leu 315
Phe	Thr	Arg	Gln	Asp 320	Leu	Суѕ	Gly	Val	Ser 325	Thr	Cys	Asp	Thr	Leu 330
Gly	Met	Ala	Asp	Val 335	Gly	Thr	Val	Cys	Asp 340	Pro	Ala	Arg	Ser	Cys 345
Ala	Ile	Val	Glu	Asp 350	Asp	Gly	Leu	Gln	Ser 355	Ala	Phe	Thr	Ala	Ala 360
His	Glu	Leu	Gly	His 365	Val	Phe	Asn	Met	Leu 370	His	Asp	Asn	Ser	Lys 375
Pro	Cys	Ile	Ser	Leu 380	Asn	Gly	Pro	Leu	Ser 385	Thr	Ser	Arg	His	Val 390
Met	Ala	Pro	Val	Met 395	Ala	His	VaI	Asp	Pro 400	Glu	Glu	Pro	Trp	Ser 405
Pro	Cys	Ser	Ala	Arg 410	Phe	Ile	Thr	Asp	Phe 415	Leu	Asp	Asn	Gly	Tyr 420
Gly	His	Cys	Leu	Leu 425	Asp	Lys	Pro	Glu	Ala 430	Pro	Leu	His	Leu	Pro 435

Val Thr Phe Pro Gly Lys Asp Tyr Asp Ala Asp Arg Gln Cys Gln Leu Thr Phe Gly Pro Asp Ser Arg His Cys Pro Gln Leu Pro Pro Pro Cys Ala Ala Leu Trp Cys Ser Gly His Leu Asn Gly His Ala Met Cys Gln Thr Lys His Ser Pro Trp Ala Asp Gly Thr Pro Cys Gly Pro Ala Gln Ala Cys Met Gly Gly Arg Cys Leu His Met Asp Gln Leu Gln Asp Phe Asn Ile Pro Gln Ala Gly Gly Trp Gly Pro Trp Gly Pro Trp Gly Asp Cys Ser Arg Thr Cys Gly Gly Val 530 Gln Phe Ser Ser Arg Asp Cys Thr Arg Pro Val Pro Arg Asn Gly Gly Lys Tyr Cys Glu Gly Arg Arg Thr Arg Phe Arg Ser Cys Asn Thr Glu Asp Cys Pro Thr Gly Ser Ala Leu Thr Phe Arg Glu Glu 580 Gln Cys Ala Ala Tyr Asn His Arg Thr Asp Leu Phe Lys Ser Phe Pro Gly Pro Met Asp Trp Val Pro Arg Tyr Thr Gly Val Ala Pro 610 Gln Asp Gln Cys Lys Leu Thr Cys Gln Ala Arg Ala Leu Gly Tyr Tyr Tyr Val Leu Glu Pro Arg Val Val Asp Gly Thr Pro Cys Ser Pro Asp Ser Ser Val Cys Val Gln Gly Arg Cys Ile His Ala Gly Cys Asp Arg Ile Ile Gly Ser Lys Lys Phe Asp Lys Cys Met Val Cys Gly Gly Asp Gly Ser Gly Cys Ser Lys Gln Ser Gly 690 Ser Phe Arg Lys Phe Arg Tyr Gly Tyr Asn Asn Val Val Thr Ile Pro Ala Gly Ala Thr His Ile Leu Val Arg Gln Gln Gly Asn Pro Gly His Arg Ser Ile Tyr Leu Ala Leu Lys Leu Pro Asp Gly Ser

725 730 735 Tyr Ala Leu Asn Gly Glu Tyr Thr Leu Met Pro Ser Pro Thr Asp 745 Val Val Leu Pro Gly Ala Val Ser Leu Arg Tyr Ser Gly Ala Thr 755 760 Ala Ala Ser Glu Thr Leu Ser Gly His Gly Pro Leu Ala Gln Pro Leu Thr Leu Gln Val Leu Val Ala Gly Asn Pro Gln Asp Thr Arg Leu Arg Tyr Ser Phe Phe Val Pro Arg Pro Thr Pro Ser Thr Pro Arg Pro Thr Pro Gln Asp Trp Leu His Arg Arg Ala Gln Ile Leu 820 Glu Ile Leu Arg Arg Pro Trp Ala Gly Arg Lys <210> 318 <211> 23 <212> DNA <213> Artificial <220> <221> Artificial Sequence <222> 1-23 <223> Synthetic construct. <400> 318 ccctgaagct gccagatggc tcc 23 <210> 319 <211> 24 <212> DNA <213> Artificial <220> <221> Artificial Sequence <222> 1-24 <223> Synthetic construct. <400> 319 ctgtgctctt cggtgcagcc agtc 24 <210> 320 <211> 43 <212> DNA <213> Artificial <220> <221> Artificial Sequence <222> 1-43 <223> Synthetic construct.

<210> 322

```
<400> 320
ccacagatgt ggtactgcct ggggcagtca gcttgcgcta cag 43
<210> 321
<211> 1197
<212> DNA
<213> Homo sapiens
<400> 321
cagcagtggt ctctcagtcc tctcaaagca aggaaagagt actgtgtgct 50
gagagaccat ggcaaagaat cctccagaga attgtgaaga ctgtcacatt 100
ctaaatgcag aagcttttaa atccaagaaa atatgtaaat cacttaagat 150
ttgtggactg gtgtttggta tcctggccct aactctaatt gtcctgtttt 200
gggggagcaa gcacttctgg ccggaggtac ccaaaaaaagc ctatgacatg 250
gagcacactt tctacagcaa tggagagaag aagaagattt acatggaaat 300
tgatcctgtg accagaactg aaatattcag aagcggaaat ggcactgatg 350
aaacattgga agtgcacgac tttaaaaacg gatacactgg catctacttc 400
gtgggtcttc aaaaatgttt tatcaaaact cagattaaag tgattcctga 450
attttctgaa ccagaagag aaatagatga gaatgaagaa attaccacaa 500
ctttctttga acagtcagtg atttgggtcc cagcagaaaa gcctattgaa 550
aaccgagatt ttcttaaaaa ttccaaaatt ctggagattt gtgataacgt 600
gaccatgtat tggatcaatc ccactctaat atcagtttct gagttacaag 650
actttgagga ggagggagaa gatcttcact ttcctgccaa cgaaaaaaaa 700
gggattgaac aaaatgaaca gtgggtggtc cctcaagtga aagtagagaa 750
gacccgtcac gccagacaag caagtgagga agaacttcca ataaatgact 800
atactgaaaa tggaatagaa tttgatccca tgctggatga gagaggttat 850
tgttgtattt actgccgtcg aggcaaccgc tattgccgcc gcgtctgtga 900
acctttacta ggctactacc catatccata ctgctaccaa ggaggacgag 950
tcatctgtcg tgtcatcatg ccttgtaact ggtgggtggc ccgcatgctg 1000
gggagggtct aataggaggt ttgagctcaa atgcttaaac tgctggcaac 1050
atataataaa tgcatgctat tcaatgaatt tctgcctatg aggcatctgg 1100
cccctggtag ccagctctcc agaattactt gtaggtaatt cctctctca 1150
```

<211> 317 <212> PRT <213> Homo sapiens <400> 322 Met Ala Lys Asn Pro Pro Glu Asn Cys Glu Asp Cys His Ile Leu Asn Ala Glu Ala Phe Lys Ser Lys Lys Ile Cys Lys Ser Leu Lys Ile Cys Gly Leu Val Phe Gly Ile Leu Ala Leu Thr Leu Ile Val Leu Phe Trp Gly Ser Lys His Phe Trp Pro Glu Val Pro Lys Lys Ala Tyr Asp Met Glu His Thr Phe Tyr Ser Asn Gly Glu Lys Lys Lys Ile Tyr Met Glu Ile Asp Pro Val Thr Arg Thr Glu Ile Phe Arg Ser Gly Asn Gly Thr Asp Glu Thr Leu Glu Val His Asp Phe 100 Lys Asn Gly Tyr Thr Gly Ile Tyr Phe Val Gly Leu Gln Lys Cys Phe Ile Lys Thr Gln Ile Lys Val Ile Pro Glu Phe Ser Glu Pro 130 Glu Glu Glu Ile Asp Glu Asn Glu Glu Ile Thr Thr Thr Phe Phe 145 Glu Gln Ser Val Ile Trp Val Pro Ala Glu Lys Pro Ile Glu Asn Arg Asp Phe Leu Lys Asn Ser Lys Ile Leu Glu Ile Cys Asp Asn Val Thr Met Tyr Trp Ile Asn Pro Thr Leu Ile Ser Val Ser Glu Leu Gln Asp Phe Glu Glu Glu Gly Glu Asp Leu His Phe Pro Ala Asn Glu Lys Lys Gly Ile Glu Gln Asn Glu Gln Trp Val Val Pro 220 Gln Val Lys Val Glu Lys Thr Arg His Ala Arg Gln Ala Ser Glu Glu Glu Leu Pro Ile Asn Asp Tyr Thr Glu Asn Gly Ile Glu Phe

265

Asp Pro Met Leu Asp Glu Arg Gly Tyr Cys Cys Ile Tyr Cys Arg

260

Arg Gly Asn Arg Tyr Cys Arg Arg Val Cys Glu Pro Leu Leu Gly 285

Tyr Tyr Pro Tyr Pro Tyr Cys Tyr Gln Gly Gly Arg Val Ile Cys 300

Arg Val Ile Met Pro Cys Asn Trp Trp Val Ala Arg Met Leu Gly 315

Arg Val

<210> 323 <211> 1174 <212> DNA <213> Homo sapiens

<400> 323

gcggaactgg ctccggctgg cacctgagga gcggcgtgac cccgagggcc 50 cagggagetg eceggetgge etaggeagge ageegeacea tggeeageae 100 ggccgtgcag cttctgggct tcctgctcag cttcctgggc atggtgggca 150 cgttgatcac caccatcctg ccgcactggc ggaggacagc gcacgtgggc 200 accaacatee teaeggeegt gteetacetg aaagggetet ggatggagtg 250 tgtgtggcac agcacaggca tctaccagtg ccagatctac cgatccctgc 300 tggcgctgcc ccaagacctc caggctgccc gcgccctcat ggtcatctcc 350 tgcctgctct cgggcatagc ctgcgcctgc gccgtcatcg ggatgaagtg 400 cacgcgctgc gccaagggca cacccgccaa gaccaccttt qccatcctcq 450 gcggcaccct cttcatcctg gccggcctcc tgtgcatqqt qqccqtctcc 500 tggaccacca acgacgtggt gcagaacttc tacaacccgc tgctgcccag 550 cggcatgaag tttgagattg gccaggccct gtacctgggc ttcatctcct 600 cgtccctctc gctcattggt ggcaccctgc tttgcctgtc ctgccaggac 650 gaggcaccct acaggcccta ccaggccccg cccagggcca ccacgaccac 700 tgcaaacacc gcacctgcct accagccacc agctgcctac aaagacaatc 750 gggccccctc agtgacctcg gccacgcaca gcgggtacag gctgaacgac 800 tacgtgtgag tccccacagc ctgcttctcc cctgggctgc tgtgggctgg 850 gtccccggcg ggactgtcaa tggaggcagg ggttccagca caaagtttac 900 ttctgggcaa tttttgtatc caaggaaata atgtgaatgc gaggaaatgt 950 ctttagagca cagggacaga gggggaaata agaggaggag aaagctctct 1000 ataccaaaga ctgaaaaaaa aaatcctgtc tgtttttgta tttattatat 1050 atatttatgt gggtgatttg ataacaagtt taatataaag tgacttggga 1100 gtttggtcag tggggttggt ttgtgatcca ggaataaacc ttgcggatgt 1150 ggctgtttat gaaaaaaaaa aaaa 1174

<210> 324

<211> 239

<212> PRT

<213> Homo sapiens

<400> 324

Met Ala Ser Thr Ala Val Gln Leu Leu Gly Phe Leu Leu Ser Phe
1 5 10 15

Leu Gly Met Val Gly Thr Leu Ile Thr Thr Ile Leu Pro His Trp
20 25 30

Arg Arg Thr Ala His Val Gly Thr Asn Ile Leu Thr Ala Val Ser 35 40 45

Tyr Leu Lys Gly Leu Trp Met Glu Cys Val Trp His Ser Thr Gly
50 55 60

Ile Tyr Gln Cys Gln Ile Tyr Arg Ser Leu Leu Ala Leu Pro Gln
65 70 75

Asp Leu Gln Ala Ala Arg Ala Leu Met Val Ile Ser Cys Leu Leu 80 85 90

Ser Gly Ile Ala Cys Ala Cys Ala Val Ile Gly Met Lys Cys Thr 95 100 105

Arg Cys Ala Lys Gly Thr Pro Ala Lys Thr Thr Phe Ala Ile Leu 110 115 120

Gly Gly Thr Leu Phe Ile Leu Ala Gly Leu Leu Cys Met Val Ala 125 130 135

Leu Leu Pro Ser Gly Met Lys Phe Glu Ile Gly Gln Ala Leu Tyr
155 160 165

Leu Gly Phe Ile Ser Ser Ser Leu Ser Leu Ile Gly Gly Thr Leu 170 175 180

Leu Cys Leu Ser Cys Gln Asp Glu Ala Pro Tyr Arg Pro Tyr Gln 185 190 195

Ala Pro Pro Arg Ala Thr Thr Thr Thr Ala Asn Thr Ala Pro Ala 200 205 210

Tyr Gln Pro Pro Ala Ala Tyr Lys Asp Asn Arg Ala Pro Ser Val 215 220 225

## Thr Ser Ala Thr His Ser Gly Tyr Arg Leu Asn Asp Tyr Val 230 235

<210> 325

<211> 2121

<212> DNA

<213> Homo sapiens

<400> 325

gageteceet caggagegeg ttagetteae acetteggea geaggagge 50 ggcagcttct cgcaggcggc agggcgggcg gccaggatca tgtccaccac 100 cacatgccaa gtggtggcgt tcctcctgtc catcctgggg ctggccggct 150 gcatcgcggc caccgggatg gacatgtgga gcacccagga cctgtacgac 200 aaccccgtca cctccgtgtt ccagtacgaa gggctctgga ggagctgcgt 250 gaggcagagt tcaggcttca ccgaatgcag gccctatttc accatcctgg 300 gacttccagc catgctgcag gcagtgcgag ccctgatgat cgtaggcatc 350 gtcctgggtg ccattggcct cctggtatcc atctttgccc tgaaatgcat 400 ccgcattggc agcatggagg actctgccaa agccaacatg acactgacct 450 ccgggatcat gttcattgtc tcaggtcttt gtgcaattgc tggagtgtct 500 gtgtttgcca acatgctggt gactaacttc tggatgtcca cagctaacat 550 gtacaccggc atgggtggga tggtgcagac tgttcagacc aggtacacat 600 ttggtgcggc tctgttcgtg ggctgggtcg ctggaggcct cacactaatt 650 gggggtgtga tgatgtgcat cgcctgccgg ggcctggcac cagaagaaac 700 caactacaaa gccgtttctt atcatgcctc aggccacagt gttgcctaca 750 agcctggagg cttcaaggcc agcactggct ttgggtccaa caccaaaaac 800 aagaagatat acgatggagg tgcccgcaca gaggacgagg tacaatctta 850 teetteeaag cacgactatg tgtaatgete taagacetet cageaeggge 900 ggaagaaact cccggagagc tcacccaaaa aacaaggaga tcccatctag 950 atttcttctt gcttttgact cacagctgga agttagaaaa gcctcgattt 1000 catctttgga gaggccaaat ggtcttagcc tcagtctctg tctctaaata 1050 ttccaccata aaacagctga gttatttatg aattagaggc tatagctcac 1100 attttcaatc ctctatttct ttttttaaat ataactttct actctgatga 1150 gagaatgtgg ttttaatctc tctctcacat tttgatgatt tagacagact 1200 ccccctcttc ctcctagtca ataaacccat tgatgatcta tttcccagct 1250

tatccccaag aaaacttttg aaaggaaaga gtagacccaa agatgttatt 1300 ttctgctgtt tgaattttgt ctccccaccc ccaacttggc tagtaataaa 1350 cacttactqa agaagaagca ataaqagaaa gatatttgta atctctccag 1400 agtcattttc agtttgaggc aaccaaacct ttctactgct gttgacatct 1500 tcttattaca gcaacaccat tctaggagtt tcctgagctc tccactggag 1550 tcctctttct gtcgcgggtc agaaattgtc cctagatgaa tgagaaaatt 1600 atttttttta atttaagtcc taaatatagt taaaataaat aatgttttag 1650 taaaatgata cactatctct gtgaaatagc ctcaccccta catgtggata 1700 gaaggaaatg aaaaaataat tgctttgaca ttgtctatat ggtactttgt 1750 aaagtcatgc ttaagtacaa attccatgaa aagctcacac ctgtaatcct 1800 agcactttgg gaggctgagg aggaaggatc acttgagccc agaagttcga 1850 gactagcctg ggcaacatgg agaagccctg tctctacaaa atacagagag 1900 aaaaaatcaq ccaqtcatqq tqqcatacac ctgtagtccc agcattccgg 1950 gaggctgagg tgggaggatc acttgagccc agggaggttg gggctgcagt 2000 gagccatgat cacaccactg cactccagcc aggtgacata gcgagatcct 2050 gtctaaaaaa ataaaaaata aataatggaa cacagcaagt cctaggaagt 2100 aggttaaaac taattcttta a 2121

<210> 326

<211> 261

<212> PRT

<213> Homo sapiens

<400> 326

Met Ser Thr Thr Cys Gln Val Val Ala Phe Leu Leu Ser Ile 1 5 10 15

Leu Gly Leu Ala Gly Cys Ile Ala Ala Thr Gly Met Asp Met Trp 20 25 30

Ser Thr Gln Asp Leu Tyr Asp Asn Pro Val Thr Ser Val Phe Gln
35 40 45

Tyr Glu Gly Leu Trp Arg Ser Cys Val Arg Gln Ser Ser Gly Phe
50 55 60

Thr Glu Cys Arg Pro Tyr Phe Thr Ile Leu Gly Leu Pro Ala Met 65 70 75

Leu Gln Ala Val Arg Ala Leu Met Ile Val Gly Ile Val Leu Gly

Ala Ile Gly Leu Leu Val Ser Ile Phe Ala Leu Lys Cys Ile Arg
95
100
105

Ile Gly Ser Met Glu Asp Ser Ala Lys Ala Asn Met Thr Leu Thr
110 115 120

Ser Gly Ile Met Phe Ile Val Ser Gly Leu Cys Ala Ile Ala Gly 125 130 135

Val Ser Val Phe Ala Asn Met Leu Val Thr Asn Phe Trp Met Ser 140 145 150

Thr Ala Asn Met Tyr Thr Gly Met Gly Gly Met Val Gln Thr Val 155 160 165

Gln Thr Arg Tyr Thr Phe Gly Ala Ala Leu Phe Val Gly Trp Val 170 175 180

Ala Gly Gly Leu Thr Leu Ile Gly Gly Val Met Met Cys Ile Ala 185 190 195

Cys Arg Gly Leu Ala Pro Glu Glu Thr Asn Tyr Lys Ala Val Ser 200 205 210

Tyr His Ala Ser Gly His Ser Val Ala Tyr Lys Pro Gly Gly Phe 215 220 225

Lys Ala Ser Thr Gly Phe Gly Ser Asn Thr Lys Asn Lys Lys Ile
230 235 240

Tyr Asp Gly Gly Ala Arg Thr Glu Asp Glu Val Gln Ser Tyr Pro 245 250 255

Ser Lys His Asp Tyr Val

<210> 327

<211> 2010

<212> DNA

<213> Homo sapiens

<400> 327

ggaaaaactg ttctcttctg tggcacagag aaccctgctt caaagcagaa 50 gtagcagttc cggagtccag ctggctaaaa ctcatcccag aggataatgg 100 caacccatgc cttagaaatc gctgggctgt ttcttggtgg tgttggaatg 150 gtgggcacag tggctgtcac tgtcatgcct cagtggagag tgtcggcctt 200 cattgaaaac aacatcgtgg tttttgaaaa cttctgggaa ggactgtgga 250 tgaattgcgt gaggcaggct aacatcagga tgcagtgcaa aatctatgat 300 tccctgctgg ctctttctcc ggacctacag gcagccagag gactgatgtg 350

tgctgcttcc gtgatgtcct tcttggcttt catgatggcc atccttggca 400 tgaaatgcac caggtgcacg ggggacaatg agaaggtgaa ggctcacatt 450 ctgctgacgg ctggaatcat cttcatcatc acgggcatgg tggtgctcat 500 ccctgtgagc tgggttgcca atgccatcat cagagatttc tataactcaa 550 tagtgaatgt tgcccaaaaa cgtgagcttg gagaagctct ctacttagga 600 tggaccacgg cactggtgct gattgttgga ggagctctgt tctgctgcgt 650 tttttgttgc aacgaaaaga gcagtagcta cagatactcg ataccttccc 700 atcgcacaac ccaaaaaagt tatcacaccg gaaagaagtc accgagcgtc 750 tactccagaa gtcagtatgt gtagttgtgt atgttttttt aactttacta 800 taaagccatg caaatgacaa aaatctatat tactttctca aaatggaccc 850 caaagaaact ttgatttact gttcttaact gcctaatctt aattacagga 900 actgtgcatc agctatttat gattctataa gctatttcag cagaatgaga 950 tattaaaccc aatgctttga ttgttctaga aagtatagta atttgttttc 1000 taaggtggtt caagcatcta ctctttttat catttacttc aaaatgacat 1050 tgctaaagac tgcattattt tactactgta atttctccac qacatagcat 1100 tatgtacata gatgagtgta acatttatat ctcacataga gacatgctta 1150 tatggtttta tttaaaatga aatgccagtc cattacactg aataaataga 1200 actcaactat tgcttttcag ggaaatcatg gatagggttg aagaaggtta 1250 ctattaattg tttaaaaaca gcttagggat taatgtcctc catttataat 1300 gaagattaaa atgaaggctt taatcagcat tgtaaaggaa attgaatggc 1350 tttctgatat gctgtttttt agcctaggag ttagaaatcc taacttcttt 1400 atcctcttct cccagaggct ttttttttct tgtgtattaa attaacattt 1450 ttaaaacgca gatattttgt caaggggctt tgcattcaaa ctgcttttcc 1500 agggctatac tcagaagaaa gataaaagtg tgatctaaga aaaagtgatg 1550 gttttaggaa agtgaaaata tttttgtttt tgtatttgaa gaagaatgat 1600 gcattttgac aagaaatcat atatgtatgg atatatttta ataagtattt 1650 gagtacagac tttgaggttt catcaatata aataaaagag cagaaaaata 1700 tgtcttggtt ttcatttgct taccaaaaaa acaacaacaa aaaaagttgt 1750 cctttgagaa cttcacctgc tcctatgtgg gtacctgagt caaaattgtc 1800

attttgttc tgtgaaaaat aaatttcctt cttgtaccat ttctgtttag 1850 ttttactaaa atctgtaaat actgtattt tctgtttatt ccaaatttga 1900 tgaaactgac aatccaattt gaaagtttgt gtcgacgtct gtctagctta 1950 aatgaatgtg ttctatttgc tttatacatt tatattaata aattgtacat 2000 ttttctaatt 2010

<210> 328

<211> 225

<212> PRT

<213> Homo sapiens

<400> 328

Met Ala Thr His Ala Leu Glu Ile Ala Gly Leu Phe Leu Gly Gly
1 5 10 15

Val Gly Met Val Gly Thr Val Ala Val Thr Val Met Pro Gln Trp
20 25 30

Arg Val Ser Ala Phe Ile Glu Asn Asn Ile Val Val Phe Glu Asn 35 40 45

Phe Trp Glu Gly Leu Trp Met Asn Cys Val Arg Gln Ala Asn Ile 50 55 60

Arg Met Gln Cys Lys Ile Tyr Asp Ser Leu Leu Ala Leu Ser Pro 65 70 75

Asp Leu Gln Ala Ala Arg Gly Leu Met Cys Ala Ala Ser Val Met 80 85 90

Ser Phe Leu Ala Phe Met Met Ala Ile Leu Gly Met Lys Cys Thr 95 100 105

Arg Cys Thr Gly Asp Asn Glu Lys Val Lys Ala His Ile Leu Leu
110 115 120

Thr Ala Gly Ile Ile Phe Ile Ile Thr Gly Met Val Val Leu Ile 125 130 135

Pro Val Ser Trp Val Ala Asn Ala Ile Ile Arg Asp Phe Tyr Asn 140 145 150

Ser Ile Val Asn Val Ala Gln Lys Arg Glu Leu Gly Glu Ala Leu 155 160 165

Tyr Leu Gly Trp Thr Thr Ala Leu Val Leu Ile Val Gly Gly Ala
170 175 180

Leu Phe Cys Cys Val Phe Cys Cys Asn Glu Lys Ser Ser Ser Tyr 185 190 195

Arg Tyr Ser Ile Pro Ser His Arg Thr Thr Gln Lys Ser Tyr His 200 205 210

Thr Gly Lys Lys Ser Pro Ser Val Tyr Ser Arg Ser Gln Tyr Val 215 220 225

<210> 329

<211> 1315

<212> DNA

<213> Homo sapiens

<400> 329

tcgccatggc ctctgccgga atgcagatcc tgggagtcgt cctgacactg 50 ctgggctggg tgaatggcct ggtctcctgt gccctgccca tgtggaaggt 100 gaccgctttc atcggcaaca gcatcgtggt ggcccaggtg gtgtgggagg 150 gcctgtggat gtcctgcgtg gtgcagagca ccggccagat gcagtgcaag 200 gtgtacgact cactgctggc gctgccacag gacctgcagg ctgcacgtgc 250 cctctgtgtc atcgccctcc ttgtggccct gttcggcttg ctggtctacc 300 ttgctggggc caagtgtacc acctgtgtgg aggagaagga ttccaaggcc 350 egectggtge teacetetgg gattgtettt gteateteag gggteetgae 400 gctaatcccc gtgtgctgga cggcgcatgc catcatccqg qacttctata 450 acccctggt ggctgaggcc caaaagcggg agctgggggc ctccctctac 500 ttgggctggg cggcctcagg ccttttgttg ctgggtgggg ggttgctgtg 550 ctgcacttgc ccctcggggg ggtcccaggg ccccagccat tacatggccc 600 gctactcaac atctgcccct gccatctctc gggggccctc tgagtaccct 650 accaagaatt acgtctgacg tggaggggaa tgggggctcc gctggcgcta 700 gagccatcca gaagtggcag tgcccaacag ctttgggatg qgttcgtacc 750 ttttgtttct gcctcctgct atttttcttt tgactgagga tatttaaaat 800 tcatttgaaa actgagccaa ggtgttgact cagactctca cttaggctct 850 gctgtttctc acccttggat gatggagcca aagaggggat gctttgagat 900 tctggatctt gacatgccca tcttagaagc cagtcaagct atggaactaa 950 tgcggaggct gcttgctgtg ctggctttgc aacaagacag actgtcccca 1000 agagttcctg ctgctgctgg gggctgggct tccctagatg tcactggaca 1050 gctgccccc atcctactca ggtctctgga gctcctctct tcacccctgg 1100 aaaaacaaat catctgttaa caaaggactg cccacctccg qaacttctga 1150 cctctgtttc ctccgtcctg ataagacgtc cacccccag ggccaggtcc 1200 cagctatgta gaccccgcc cccacctcca acactgcacc cttctgccct 1250 gccccctcg tctcacccc tttacactca catttttatc aaataaagca 1300 tgttttgtta gtgca 1315

<210> 330

<211> 220

<212> PRT

<213> Homo sapiens

<400> 330

Met Ala Ser Ala Gly Met Gln Ile Leu Gly Val Val Leu Thr Leu 1 5 10 15

Leu Gly Trp Val Asn Gly Leu Val Ser Cys Ala Leu Pro Met Trp 20 25 30

Lys Val Thr Ala Phe Ile Gly Asn Ser Ile Val Val Ala Gln Val
35 40 45

Val Trp Glu Gly Leu Trp Met Ser Cys Val Val Gln Ser Thr Gly
50 55 60

Gln Met Gln Cys Lys Val Tyr Asp Ser Leu Leu Ala Leu Pro Gln
65 70 75

Asp Leu Gln Ala Ala Arg Ala Leu Cys Val Ile Ala Leu Leu Val 80 85 90

Ala Leu Phe Gly Leu Leu Val Tyr Leu Ala Gly Ala Lys Cys Thr 95 100 105

Thr Cys Val Glu Glu Lys Asp Ser Lys Ala Arg Leu Val Leu Thr
110 115 120

Ser Gly Ile Val Phe Val Ile Ser Gly Val Leu Thr Leu Ile Pro 125 130 135

Val Cys Trp Thr Ala His Ala Ile Ile Arg Asp Phe Tyr Asn Pro

Leu Val Ala Glu Ala Gln Lys Arg Glu Leu Gly Ala Ser Leu Tyr 155 160 165

Leu Gly Trp Ala Ala Ser Gly Leu Leu Leu Leu Gly Gly Gly Leu
170 175 180

Leu Cys Cys Thr Cys Pro Ser Gly Gly Ser Gln Gly Pro Ser His
185 190 195

Tyr Met Ala Arg Tyr Ser Thr Ser Ala Pro Ala Ile Ser Arg Gly
200 205 210

Pro Ser Glu Tyr Pro Thr Lys Asn Tyr Val 215 220

<210> 331

<211> 1160

<212> DNA

## <213> Homo sapiens

<400> 331 gccaaggaga acatcatcaa agacttctct agactcaaaa ggcttccacg 50 ttctacatct tgagcatctt ctaccactcc gaattgaacc agtcttcaaa 100 gtaaaggcaa tggcatttta tcccttgcaa attgctgggc tggttcttgg 150 gttccttggc atggtggga ctcttgccac aacccttctg cctcagtggt 200 ggagtatcag cttttgttgg cagcaacatt attgtctttg agaggctctg 250 ggaagggctc tggatgaatt gcatccgaca agccagggtc cggttgcaat 300 gcaagttcta tagctccttg ttggctctcc cgcctgccct ggaaacagcc 350 cgggccctca tgtgtgtggc tgttgctctc tccttgatcg ccctgcttat 400 tggcatctqt ggcatgaagc aggtccagtg cacaggctct aacgagaggg 450 ccaaagcata ccttctggga acttcaggag tcctcttcat cctgacgggt 500 atcttcgttc tgattccggt gagctggaca gccaatataa tcatcagaga 550 tttctacaac ccagccatcc acataggtca gaaacgagag ctgggagcag 600 cacttttcct tggctgggca agcgctgctg tcctcttcat tggagggggt 650 ctgctttgtg gattttgctg ctgcaacaga aagaagcaag ggtacagata 700 tccagtgcct ggctaccgtg tgccacacac agataagcga agaaatacga 750 caatgettag taagacetee accagttatg tetaatgeet cettttgget 800 ccaagtatgg actatggtca atgtttttta taaagtcctg ctagaaactg 850 taagtatgtg aggcaggaga acttgcttta tgtctagatt tacattgata 900 cgaaagtttc aatttgttac tggtggtagg aatgaaaatg acttacttgg 950 acattctgac ttcaggtgta ttaaatgcat tgactattgt tggacccaat 1000 cgctgctcca attttcatat tctaaattca agtataccca taatcattag 1050 caagtgtaca atgatggact acttattact ttttgaccat catgtattat 1100 ctgataagaa tctaaagttg aaattgatat tctataacaa taaaacatat 1150 acctattcta 1160

<210> 332

<211> 173

<212> PRT

<213> Homo sapiens

<400> 332

Met Asn Cys Ile Arg Gln Ala Arg Val Arg Leu Gln Cys Lys Phe

1 5 10 15 Tyr Ser Ser Leu Leu Ala Leu Pro Pro Ala Leu Glu Thr Ala Arg Ala Leu Met Cys Val Ala Val Ala Leu Ser Leu Ile Ala Leu Leu Ile Gly Ile Cys Gly Met Lys Gln Val Gln Cys Thr Gly Ser Asn Glu Arg Ala Lys Ala Tyr Leu Leu Gly Thr Ser Gly Val Leu Phe Ile Leu Thr Gly Ile Phe Val Leu Ile Pro Val Ser Trp Thr Ala Asn Ile Ile Ile Arg Asp Phe Tyr Asn Pro Ala Ile His Ile Gly Gln Lys Arg Glu Leu Gly Ala Ala Leu Phe Leu Gly Trp Ala Ser 115 Ala Ala Val Leu Phe Ile Gly Gly Gly Leu Leu Cys Gly Phe Cys Cys Cys Asn Arg Lys Lys Gln Gly Tyr Arg Tyr Pro Val Pro Gly Tyr Arg Val Pro His Thr Asp Lys Arg Arg Asn Thr Thr Met Leu 160 Ser Lys Thr Ser Thr Ser Tyr Val

<210> 333

<211> 535

<212> DNA

<213> Homo sapiens

<400> 333

agtgacaatc tcagagcagc ttctacacca cagccatttc cagcatgaag 50 atcactgggg gtctccttct gctctgtaca gtggtctatt tctgtagcag 100 ctcagaagct gctagtctgt ctccaaaaaa agtggactgc agcatttaca 150 agaagtatcc agtggtggcc atcccctgcc ccatcacata cctaccagtt 200 tgtggttctg actacatcac ctatgggaat gaatgtcact tgtgtaccga 250 gagcttgaaa agtaatggaa gagttcagtt tcttcacgat ggaagttgct 300 aaattctcca tggacataga gagaaaggaa tgatattctc atcatcatct 350 tcatcatccc aggctctgac tgagtttctt tcagttttac tgatgttctg 400 ggtgggggac agagccagat tcagagtaat cttgactgaa tggagaaagt 450

ttctgtgcta cccctacaaa cccatgcctc actgacagac cagcattttt 500 tttttaacac gtcaataaaa aaataatctc ccaga 535

<210> 334

<211> 85

<212> PRT

<213> Homo sapiens

<400> 334

Met Lys Ile Thr Gly Gly Leu Leu Leu Cys Thr Val Val Tyr 1 5 10 15

Phe Cys Ser Ser Ser Glu Ala Ala Ser Leu Ser Pro Lys Lys Val 20 25 30

Asp Cys Ser Ile Tyr Lys Lys Tyr Pro Val Val Ala Ile Pro Cys 35 40 45

Pro Ile Thr Tyr Leu Pro Val Cys Gly Ser Asp Tyr Ile Thr Tyr 50 55 60

Gly Asn Glu Cys His Leu Cys Thr Glu Ser Leu Lys Ser Asn Gly
65 70 75

Arg Val Gln Phe Leu His Asp Gly Ser Cys 80 85

<210> 335

<211> 742

<212> DNA

<213> Homo sapiens

<400> 335

cccgcgcccg gttctccctc gcagcacctc gaagtgcgcc cctcgccctc 50 ctgctcgcgc cccgcgcaa tggctgcctc ccccgcgcgg cctgctgtcc 100 tggccctgac cgggctggcg ctgctcctgc tcctgtgctg gggcccaggt 150 ggcataagtg gaaataaact caagctgatg cttcaaaaac gagaagcacc 200 tgttccaact aagactaaag tggccgttga tgagaataaa gccaaagaat 250 tccttggcag cctgaagcgc cagaagcggc agctgtgga ccggactcgg 300 cccgaggtgc agcagtggta ccagcagtt ctctacatgg gctttgatga 350 agcgaaatt gaagatgaca tcacctattg gcttaacaga gatcgaaatg 400 gacatgaata ctatggcgat tactaccaac gtcactatga tgaagactct 450 gcaattggtc cccggagccc ctacggcttt aggcatggag ccagcgtcaa 500 ctacgatgac tactaaccat gacttgccac acgctgtaca agaagcaaat 550 agcgattctc ttcatgtatc tcctaatgcc ttacactact tggtttctga 600

tttgctctat ttcagcagat cttttctacc tactttgtgt gatcaaaaaa 650 gaagagttaa aacaacacat gtaaatgcct tttgatattt catgggaatg 700 cctctcattt aaaaatagaa ataaagcatt ttgttaaaaa ga 742

<210> 336

<211> 148

<212> PRT

<213> Homo sapiens

<400> 336

Met Ala Ala Ser Pro Ala Arg Pro Ala Val Leu Ala Leu Thr Gly
1 5 10 15

Leu Ala Leu Leu Leu Leu Cys Trp Gly Pro Gly Gly Ile Ser 20 25 30

Gly Asn Lys Leu Lys Leu Met Leu Gln Lys Arg Glu Ala Pro Val 35 40 45

Pro Thr Lys Thr Lys Val Ala Val Asp Glu Asn Lys Ala Lys Glu
. 50 55 60

Phe Leu Gly Ser Leu Lys Arg Gln Lys Arg Gln Leu Trp Asp Arg
65 70 75

Thr Arg Pro Glu Val Gln Gln Trp Tyr Gln Gln Phe Leu Tyr Met 80 85 90

Gly Phe Asp Glu Ala Lys Phe Glu Asp Asp Ile Thr Tyr Trp Leu 95 100 105

Asn Arg Asp Arg Asn Gly His Glu Tyr Tyr Gly Asp Tyr Tyr Gln 110 115 120

Arg His Tyr Asp Glu Asp Ser Ala Ile Gly Pro Arg Ser Pro Tyr 125 130 135

Gly Phe Arg His Gly Ala Ser Val Asn Tyr Asp Asp Tyr 140 145

<210> 337

<211> 1310

<212> DNA

<213> Homo sapiens

<400> 337

cggctcgagc ccgcccggaa gtgcccgagg ggccgcgatg gagctggggg 50
agccgggcgc tcggtagcgc ggcgggcaag gcaggcgcca tgaccctgat 100
tgaaggggtg ggtgatgagg tgaccgtcct tttctcggtg cttgcctgcc 150
ttctggtgct ggcccttgcc tgggtctcaa cgcacaccgc tgagggcggg 200
gacccactgc cccagccgtc agggacccca acgccatccc agcccagcgc 250

agccatggca gctaccgaca gcatgagagg ggaggcccca ggggcagaga 300 ccccagcct gagacacaga ggtcaagctg cacagccaga gcccagcacg 350 gggttcacag caacaccgcc agccccggac tccccgcagg agcccctcgt 400 gctacggctq aaattcctca atgattcaga gcaggtggcc agggcctggc 450 cccacgacac cattggctcc ttgaaaagga cccagtttcc cggccgggaa 500 cagcaggtgc gactcatcta ccaagggcag ctgctaggcg acgacaccca 550 gaccetggge ageetteace teecteecaa etgegttete caetgeeacg 600 tgtccacgag agtcggtccc ccaaatcccc cctgcccgcc ggggtccgag 650 cccggcccct ccgggctgga aatcggcagc ctgctgctgc ccctgctgct 700 cctgctgttg ctgctgctct ggtactgcca gatccagtac cggcccttct 750 ttcccctgac cgccactctg ggcctggccg gcttcaccct gctcctcagt 800 ctcctggcct ttgccatgta ccgcccgtag tgcctccgcg ggcgcttggc 850 agegtegeeg geceeteegg acettgetee eegegeegeg gegggagetg 900 ctgcctgccc aggcccgcct ctccggcctg cctcttcccg ctgccctgga 950 gcccagccct gcgccgcaga ggactcccgg gactggcgga ggccccgccc 1000 tgcgaccgcc ggggctcggg gccacctccc ggggctgctg aacctcagcc 1050 cgcactggga gtgggctcct cggggtcggg catctgctgt cgctgcctcg 1100 gccccgggca gagccgggcc gccccggggg cccgtcttag tgttctgccg 1150 gaggacccag ccgcctccaa tccctgacag ctccttgggc tgagttgggg 1200 acgccaggtc ggtgggaggc tggtgaaggg gagcggggag gggcagagga 1250 gttccccgga acccgtgcag attaaagtaa ctgtgaagtt ttaaaaaaaaa 1300

<210> 338

<211> 246

<212> PRT

<213> Homo sapiens

aaaaaaaaa 1310

<400> 338

Met Thr Leu Ile Glu Gly Val Gly Asp Glu Val Thr Val Leu Phe 1 5 10 15

Ser Val Leu Ala Cys Leu Leu Val Leu Ala Leu Ala Trp Val Ser 20 25 30

Thr His Thr Ala Glu Gly Gly Asp Pro Leu Pro Gln Pro Ser Gly
35 40 45

Thr Pro Thr Pro Ser Gln Pro Ser Ala Ala Met Ala Ala Thr Asp Ser Met Arg Gly Glu Ala Pro Gly Ala Glu Thr Pro Ser Leu Arg 70 His Arg Gly Gln Ala Ala Gln Pro Glu Pro Ser Thr Gly Phe Thr Ala Thr Pro Pro Ala Pro Asp Ser Pro Gln Glu Pro Leu Val Leu 95 Arg Leu Lys Phe Leu Asn Asp Ser Glu Gln Val Ala Arg Ala Trp 110 115 Pro His Asp Thr Ile Gly Ser Leu Lys Arg Thr Gln Phe Pro Gly 135 125 Arg Glu Gln Gln Val Arg Leu Ile Tyr Gln Gly Gln Leu Leu Gly 150 140 Asp Asp Thr Gln Thr Leu Gly Ser Leu His Leu Pro Pro Asn Cys 155 160 165 Val Leu His Cys His Val Ser Thr Arg Val Gly Pro Pro Asn Pro 170 175 180 Pro Cys Pro Pro Gly Ser Glu Pro Gly Pro Ser Gly Leu Glu Ile 190 Gly Ser Leu Leu Leu Pro Leu Leu Leu Leu Leu Leu Leu Leu 205 210 Trp Tyr Cys Gln Ile Gln Tyr Arg Pro Phe Phe Pro Leu Thr Ala 220 Thr Leu Gly Leu Ala Gly Phe Thr Leu Leu Leu Ser Leu Leu Ala 230 235 240 Phe Ala Met Tyr Arg Pro

<210> 339 <211> 849

<212> DNA

<213> Homo sapiens

<400> 339

gagattggaa acagccaggt tggagcagtg agtgagtaag gaaacctggc 50 tgccctctcc agattcccca ggctctcaga gaagatcagc agaaagtctg 100 caagacccta agaaccatca gccctcagct gcacctcctc ccctccaagg 150 atgacaaagg cgctactcat ctatttggtc agcagctttc ttgccctaaa 200 tcaggccagc ctcatcagtc gctgtgactt ggcccaggtg ctgcagctgg 250

aggacttgga tgggtttgag ggttactccc tgagtgactg gctgtgcctg 300 gcttttgtgg aaagcaagtt caacatatca aagataaatg aaaatgcgga 350 tggaagcttt gactatggcc tcttccagat caacagccac tactggtgca 400 acgattataa gagttactcg gaaaaccttt gccacgtaga ctgtcaagat 450 ctgctgaatc ccaaccttct tgcaggcatc cactgcgcaa aaaggattgt 500 gtccggagca cgggggatga acaactgggt agaatggagg ttgcactgtt 550 caggccggcc actctcctac tggctgacag gatgccgcct gagatgaaac 600 agggtgcggg tgcaccgtgg agtcattcca agactcctgt cctcactcag 650 ggattcttca tttcttctc ctactgcctc cacttcatgt tattttcttc 700 ccttcccatt tacaactaaa actgaccaga gccccaggaa taaatggttt 750 tcttggcttc ctccttactc ccactcagac ccagtccct ggttcctgtc 800 tgttatttgt aaactgagga ccacaataaa gaaatcttta tatttatcg 849

<210> 340

<211> 148

<212> PRT

<213> Homo sapiens

<400> 340

Met Thr Lys Ala Leu Leu Ile Tyr Leu Val Ser Ser Phe Leu Ala 1 5 10 15

Leu Asn Gln Ala Ser Leu Ile Ser Arg Cys Asp Leu Ala Gln Val 20 25 30

Leu Gln Leu Glu Asp Leu Asp Gly Phe Glu Gly Tyr Ser Leu Ser
35 40 45

Asp Trp Leu Cys Leu Ala Phe Val Glu Ser Lys Phe Asn Ile Ser 50 55 60

Lys Ile Asn Glu Asn Ala Asp Gly Ser Phe Asp Tyr Gly Leu Phe 65 70 75

Gln Ile Asn Ser His Tyr Trp Cys Asn Asp Tyr Lys Ser Tyr Ser 80 85 90

Glu Asn Leu Cys His Val Asp Cys Gln Asp Leu Leu Asn Pro Asn 95 100 105

Leu Leu Ala Gly Ile His Cys Ala Lys Arg Ile Val Ser Gly Ala

Arg Gly Met Asn Asn Trp Val Glu Trp Arg Leu His Cys Ser Gly
125 130 135

Arg Pro Leu Ser Tyr Trp Leu Thr Gly Cys Arg Leu Arg

140 145

```
<210> 341
<211> 23
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-23
<223> Synthetic construct.
<400> 341
ccctccaagg atgacaaagg cgc 23
<210> 342
<211> 29
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-29
<223> Synthetic construct.
<400> 342
ggtcagcagc tttcttgccc taaatcagg 29
<210> 343
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 343
atctcaggcg gcatcctgtc agcc 24
<210> 344
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 344
gtggatgcct gcaagaaggt tggg 24
<210> 345
<211> 45
<212> DNA
<213> Artificial
```

```
<220>
<221> Artificial Sequence
<222> 1-45
<223> Synthetic construct.
<400> 345
agetttettg cectaaatea ggeeageete ateagteget gtgae 45
<210> 346
<211> 2575
<212> DNA
<213> Homo sapiens
<400> 346
tctgacctga ctggaagcgt ccaaagaggg acggctgtca gccctgcttg 50
actgagaacc caccagctca tcccagacac ctcatagcaa cctatttata 100
caaaggggga aagaaacacc tgagcagaat ggaatcatta ttttttccc 150
gtgaatgggc tttcagaagg caattaaaga aatccactca gagaggactt 250
ggggtgaaac ttgggtcctg tggttttctg attgtaagtg gaagcaggtc 300
ttgcacacgc tgttggcaaa tgtcaggacc aggttaagtg actggcagaa 350
aaacttccag gtggaacaag caacccatgt tctgctgcaa gcttgaagga 400
gcctggagcg ggagaaagct aacttgaaca tgacctgttg catttggcaa 450
gttctagcaa catgctccta aggaagcgat acaggcacag accatgcaga 500
ctccagttcc tcctgctgct cctgatgctg ggatgcgtcc tgatgatggt 550
ggcgatgttg caccetecee accaeacet geaceagaet gteacageee 600
aagccagcaa gcacagccct gaagccaggt accgcctgga ctttggggaa 650
tcccaggatt gggtactgga agctgaggat gagggtgaag agtacagccc 700
tctggagggc ctgccaccct ttatctcact gcgggaggat cagctgctgg 750
tggccgtggc cttaccccag gccagaagga accagagcca gggcaggaga 800
ggtgggagct accgcctcat caagcagcca aggaggcagg ataaggaagc 850
cccaaagagg gactgggggg ctgatgagga cggggaggtg tctgaagaag 900
aggagttgac cccgttcagc ctggacccac gtggcctcca ggaggcactc 950
agtgcccgca tccccctcca gagggctctg cccgaggtgc ggcacccact 1000
gtgtctgcag cagcaccctc aggacagcct gcccacagcc agcgtcatcc 1050
tctgtttcca tgatgaggcc tggtccactc tcctgcggac tgtacacagc 1100
```

atcctcgaca cagtgcccag ggccttcctg aaggagatca tcctcgtgga 1150 cgacctcagc cagcaaggac aactcaagtc tgctctcagc gaatatgtgg 1200 ccaggctgga gggggtgaag ttactcagga gcaacaagag gctgggtgcc 1250 atcagggccc ggatgctggg ggccaccaga gccaccgggg atgtgctcgt 1300 cttcatggat gcccactgcg agtgccaccc aggctggctg gagcccctcc 1350 tcagcagaat agctggtgac aggagccgag tggtatctcc ggtgatagat 1400 gtgattgact ggaagacttt ccagtattac ccctcaaagg acctgcagcg 1450 tggggtgttg gactggaagc tggatttcca ctgggaacct ttgccagagc 1500 atgtgaggaa ggccctccag tcccccataa gccccatcag gagccctgtg 1550 gtgcccggag aggtggtggc catggacaga cattacttcc aaaacactgg 1600 agcgtatgac tctcttatgt cgctgcgagg tggtgaaaac ctcgaactgt 1650 ctttcaaggc ctggctctgt ggtggctctg ttgaaatcct tccctgctct 1700 cgggtaggac acatctacca aaatcaggat tcccattccc ccctcgacca 1750 ggaggccacc ctgaggaaca gggttcgcat tgctgagacc tggctggggt 1800 cattcaaaga aaccttctac aagcatagcc cagaggcctt ctccttgagc 1850 aaggctgaga agccagactg catggaacgc ttgcagctgc aaaggagact 1900 gggttgtcgg acattccact ggtttctggc taatgtctac cctgagctgt 1950 acccatctga acccaggeee agtttetetg gaaageteea caacaetgga 2000 cttgggctct gtgcagactg ccaggcagaa ggggacatcc tgggctgtcc 2050 catggtgttg gctccttgca gtgacagccg gcagcaacag tacctgcagc 2100 acaccagcag gaaggagatt cactttggca gcccacagca cctgtgcttt 2150 gctgtcaggc aggagcaggt gattcttcag aactgcacgg aggaaggcct 2200 ggccatccac cagcagcact gggacttcca ggagaatggg atgattgtcc 2250 acattette tgggaaatge atggaagetg tggtgeaaga aaacaataaa 2300 gatttgtacc tgcgtccgtg tgatggaaaa gcccgccagc agtggcgatt 2350 tgaccagata aatgctgtgg atgaacgatg aatgtcaatg tcagaaggaa 2400 aagagaattt tggccatcaa aatccagctc caagtgaacg taaagagctt 2450 atatatttca tgaagctgat ccttttgtgt gtgtgctcct tgtgttagga 2500 gagaaaaaag ctctatgaaa gaatatagga agtttctcct tttcacacct 2550

## tatttcattg actgctggct gctta 2575

<210> 347

<211> 639

<212> PRT

<213> Homo sapiens

<400> 347

Met Leu Leu Arg Lys Arg Tyr Arg His Arg Pro Cys Arg Leu Gln
1 5 10 15

Phe Leu Leu Leu Leu Met Leu Gly Cys Val Leu Met Met Val
20 25 30

Ala Met Leu His Pro Pro His His Thr Leu His Gln Thr Val Thr 35 40 45

Ala Gln Ala Ser Lys His Ser Pro Glu Ala Arg Tyr Arg Leu Asp 50 55 60

Phe Gly Glu Ser Gln Asp Trp Val Leu Glu Ala Glu Asp Glu Gly 65 70 75

Glu Glu Tyr Ser Pro Leu Glu Gly Leu Pro Pro Phe Ile Ser Leu
80 85 90

Arg Glu Asp Gln Leu Leu Val Ala Val Ala Leu Pro Gln Ala Arg 95 100 105

Arg Asn Gln Ser Gln Gly Arg Arg Gly Gly Ser Tyr Arg Leu Ile 110 115 120

Lys Gln Pro Arg Arg Gln Asp Lys Glu Ala Pro Lys Arg Asp Trp
125 130 135

Gly Ala Asp Glu Asp Gly Glu Val Ser Glu Glu Glu Glu Leu Thr
140 145 150

Pro Phe Ser Leu Asp Pro Arg Gly Leu Gln Glu Ala Leu Ser Ala 155 160 165

Arg Ile Pro Leu Gln Arg Ala Leu Pro Glu Val Arg His Pro Leu 170 175 180

Cys Leu Gln Gln His Pro Gln Asp Ser Leu Pro Thr Ala Ser Val 185 190 195

Ile Leu Cys Phe His Asp Glu Ala Trp Ser Thr Leu Leu Arg Thr

Val His Ser Ile Leu Asp Thr Val Pro Arg Ala Phe Leu Lys Glu 215 220 225

Ile Ile Leu Val Asp Asp Leu Ser Gln Gln Gly Gln Leu Lys Ser 230 235 240

Ala Leu Ser Glu Tyr Val Ala Arg Leu Glu Gly Val Lys Leu Leu 245 250 255

Arg Ser Asn Lys Arg Leu Gly Ala Ile Arg Ala Arg Met Leu Gly Ala Thr Arg Ala Thr Gly Asp Val Leu Val Phe Met Asp Ala His Cys Glu Cys His Pro Gly Trp Leu Glu Pro Leu Leu Ser Arg Ile Ala Gly Asp Arg Ser Arg Val Val Ser Pro Val Ile Asp Val Ile Asp Trp Lys Thr Phe Gln Tyr Tyr Pro Ser Lys Asp Leu Gln Arg Gly Val Leu Asp Trp Lys Leu Asp Phe His Trp Glu Pro Leu Pro 335 Glu His Val Arg Lys Ala Leu Gln Ser Pro Ile Ser Pro Ile Arg 355 Ser Pro Val Val Pro Gly Glu Val Val Ala Met Asp Arg His Tyr 370 Phe Gln Asn Thr Gly Ala Tyr Asp Ser Leu Met Ser Leu Arg Gly 385 390 Gly Glu Asn Leu Glu Leu Ser Phe Lys Ala Trp Leu Cys Gly Gly Ser Val Glu Ile Leu Pro Cys Ser Arg Val Gly His Ile Tyr Gln Asn Gln Asp Ser His Ser Pro Leu Asp Gln Glu Ala Thr Leu Arg 430 Asn Arg Val Arg Ile Ala Glu Thr Trp Leu Gly Ser Phe Lys Glu 445 Thr Phe Tyr Lys His Ser Pro Glu Ala Phe Ser Leu Ser Lys Ala 460 Glu Lys Pro Asp Cys Met Glu Arg Leu Gln Leu Gln Arg Arg Leu 475 Gly Cys Arg Thr Phe His Trp Phe Leu Ala Asn Val Tyr Pro Glu Leu Tyr Pro Ser Glu Pro Arg Pro Ser Phe Ser Gly Lys Leu His 510 Asn Thr Gly Leu Gly Leu Cys Ala Asp Cys Gln Ala Glu Gly Asp Ile Leu Gly Cys Pro Met Val Leu Ala Pro Cys Ser Asp Ser Arg 540 Gln Gln Gln Tyr Leu Gln His Thr Ser Arg Lys Glu Ile His Phe

545 550 555 Gly Ser Pro Gln His Leu Cys Phe Ala Val Arg Gln Glu Gln Val Ile Leu Gln Asn Cys Thr Glu Glu Gly Leu Ala Ile His Gln Gln His Trp Asp Phe Gln Glu Asn Gly Met Ile Val His Ile Leu Ser Gly Lys Cys Met Glu Ala Val Val Gln Glu Asn Asn Lys Asp Leu 610 Tyr Leu Arg Pro Cys Asp Gly Lys Ala Arg Gln Gln Trp Arg Phe Asp Gln Ile Asn Ala Val Asp Glu Arg 635 <210> 348 <211> 23 <212> DNA <213> Artificial <220> <221> Artificial Sequence <222> 1-23 <223> Synthetic construct. <400> 348 ggagaggtgg tggccatgga cag 23 <210> 349 <211> 24 <212> DNA <213> Artificial <220> <221> Artificial Sequence <222> 1-24 <223> Synthetic construct. <400> 349 ctgtcactgc aaggagccaa cacc 24 <210> 350 <211> 45 <212> DNA <213> Artificial <220> <221> Artificial Sequence <222> 1-45 <223> Synthetic construct. <400> 350 tatgtcgctg cgaggtggtg aaaacctcga actgtctttc aaggc 45

<210> 351 <211> 2524 <212> DNA <213> Homo sapiens

<400> 351 cgccaagcat gcagtaaagg ctgaaaatct gggtcacagc tgaggaagac 50 ctcagacatg gagtccagga tgtggcctgc gctgctgctg tcccacctcc 100 tecetetetg gecaetgetg ttgetgeece teceaecgee tgeteaggge 150 tottcatcct cccctcgaac cccaccagcc ccagcccgcc ccccgtgtgc 200 caggggagge eceteggeee caegteatgt gtgegtgtgg gagegageae 250 ctccaccaag ccgatctcct cgggtcccaa gatcacgtcg gcaagtcctg 300 cctggcactg caccccage caccccatca ggctttgagg aggggccgcc 350 ctcatcccaa tacccctggg ctatcgtgtg gggtcccacc gtgtctcgag 400 aggatggagg ggaccccaac tctgccaatc ccggatttct ggactatggt 450 tttgcagccc ctcatgggct cgcaacccca caccccaact cagactccat 500 gcgaggtgat ggagatgggc ttatccttgg agaggcacct gccaccctgc 550 ggccattcct gttcgggggc cgtggggaag gtgtggaccc ccagctctat 600 gtcacaatta ccatctccat catcattgtt ctcgtggcca ctggcatcat 650 cttcaagttc tgctgggacc gcagccagaa gcgacgcaga ccctcagggc 700 agcaaggtgc cctgaggcag gaggagagcc agcagccact gacagacctg 750 tccccggctg gagtcactgt gctgggggcc ttcgggggact cacctacccc 800 cacccctgac catgaggagc cccgaggggg accccggcct gggatgcccc 850 accccaaggg ggctccagcc ttccagttga accggtgagg gcaggggcaa 900 tgggatggga gggcaaagag ggaaggcaac ttaggtcttc agagctgggg 950 tgggggtgcc ctctggatgg gtagtgagga ggcaggcgtg gcctcccaca 1000 gcccctggcc ctcccaaggg ggctggacca gctcctctct gggaggcacc 1050 cttccttctc ccagtctctc aggatctgtg tcctattctc tgctgcccat 1100 aactccaact ctgccctctt tggttttttc tcatgccacc ttgtctaaga 1150 caactetgee etettaacet tgatteecee tetttgtett gaactteece 1200 ttctattctg gcctacccct tggttcctga ctgtgccctt tccctcttcc 1250 tctcaggatt cccctggtga atctgtgatg cccccaatgt tggggtgcag 1300 ccaagcagga ggccaagggg ccggcacagc ccccatccca ctgagggtgg 1350 ggcagctgtg gggagctggg gccacagggg ctcctggctc ctgccccttg 1400 cacaccacce ggaacactee ecageceeae gggcaateet atetgetege 1450 cctcctgcag gtgggggcct cacatatctg tgacttcggg tccctgtccc 1500 caccettgtg cacteacatg aaageettge acacteacet ceacetteae 1550 aggecatttg cacacgetee tgeaccetet eccegteeat accgeteege 1600 teagetgact eteatgttet etegteteae atttgeacte teteetteee 1650 acattctgtg ctcagctcac tcagtggtca gcgtttcctg cacactttac 1700 ctctcatgtg cgtttcccgg cctgatgttg tggtggtgtg cggcgtgctc 1750 actetetece teatgaacae ceaeceaect egttteegea geeetgegt 1800 gctgctccag aggtgggtgg gaggtgagct gggggctcct tgggccctca 1850 teggteatgg tetegteeca ttecacacea tttgtttete tgteteeca 1900 tectacteca aggatgeegg cateaceetg agggeteece ettgggaatg 1950 gggtagtgag gccccagact tcacccccag cccactgcta aaatctgttt 2000 tctgacagat gggttttggg gagtcgcctg ctgcactaca tgagaaaggg 2050 actoccattt gcccttccct ttctcctaca gtcccttttg tcttgtctgt 2100 cctggctgtc tqtgtgtgtg ccattctctg gacttcagag ccccctgagc 2150 cagtectece tteccageet ceetttggge etecetaaet ceacetagge 2200 tgccagggac cggagtcagc tggttcaagg ccatcgggag ctctgcctcc 2250 aagtctaccc ttcccttccc ggactccctc ctgtcccctc ctttcctccc 2300 teetteette eacteteett cettttgett eeetgeeett teeeceteet 2350 caggitette ectectiete actggittit ceaectiect ecticeette 2400 ttccctggct cctaggctgt gatatatatt tttgtattat ctctttcttc 2450 ttcttgtggt gatcatcttg aattactgtg ggatgtaagt ttcaaaattt 2500 tcaaataaag cctttgcaag ataa 2524

```
<210> 352
```

<sup>&</sup>lt;211> 243

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 352

Met Arg Pro Gln Gly Pro Ala Ala Ser Pro Gln Arg Leu Arg Gly
1 5 10 15

Leu Leu Leu Leu Leu Gln Leu Pro Ala Pro Ser Ser Ala Ser Glu Ile Pro Lys Gly Lys Gln Lys Ala Gln Leu Arg Gln Arg Glu Val Val Asp Leu Tyr Asn Gly Met Cys Leu Gln Gly Pro Ala Gly Val Pro Gly Arg Asp Gly Ser Pro Gly Ala Asn Val Ile Pro Gly Thr Pro Gly Ile Pro Gly Arg Asp Gly Phe Lys Gly Glu Lys Gly Glu Cys Leu Arg Glu Ser Phe Glu Glu Ser Trp Thr Pro Asn Tyr Lys Gln Cys Ser Trp Ser Ser Leu Asn Tyr Gly Ile Asp Leu 115 Gly Lys Ile Ala Glu Cys Thr Phe Thr Lys Met Arg Ser Asn Ser Ala Leu Arg Val Leu Phe Ser Gly Ser Leu Arg Leu Lys Cys Arg 145 Asn Ala Cys Cys Gln Arg Trp Tyr Phe Thr Phe Asn Gly Ala Glu Cys Ser Gly Pro Leu Pro Ile Glu Ala Ile Ile Tyr Leu Asp Gln 170 175 Gly Ser Pro Glu Met Asn Ser Thr Ile Asn Ile His Arg Thr Ser Ser Val Glu Gly Leu Cys Glu Gly Ile Gly Ala Gly Leu Val Asp Val Ala Ile Trp Val Gly Thr Cys Ser Asp Tyr Pro Lys Gly Asp Ala Ser Thr Gly Trp Asn Ser Val Ser Arg Ile Ile Glu Glu

Leu Pro Lys

<210> 353

<211> 480

<212> DNA

<213> Homo sapiens

<400> 353

gttaaccage geagteetee gtgegteeeg ceegeegetg eeeteactee 50 eggeeaggat ggeateetgt etggeeetge geatggeget getgetggte 100

teegggtte tggeecetge ggtgeteaca gacgatgtte cacaggagee 150 cgtgeecacg etgtggaacg ageeggeega getgeegteg ggagaaggee 200 cegtggagag caccageece ggeegggage eegtggaeac eggteececa 250 geececaceg tegegeeagg accegaggae ageacegege aggagegget 300 ggaecaggge ggegggtege tggggeeegg egetategeg geeategtga 350 tegeegeet getggeeace tgegtggtge tggegetegt ggtegtege 400 ctgagaaagt tttetgeete etgaagegaa taaaggggee gegeeeggee 450 geggegegae teggeaaaaa aaaaaaaaa 480

<210> 354

<211> 121

<212> PRT

<213> Homo sapiens

<400> 354

Met Ala Ser Cys Leu Ala Leu Arg Met Ala Leu Leu Leu Val Ser 1 5 10 15

Gly Val Leu Ala Pro Ala Val Leu Thr Asp Asp Val Pro Gln Glu 20 25 30

Pro Val Pro Thr Leu Trp Asn Glu Pro Ala Glu Leu Pro Ser Gly 35 40 45

Glu Gly Pro Val Glu Ser Thr Ser Pro Gly Arg Glu Pro Val Asp 50 55 60

Thr Gly Pro Pro Ala Pro Thr Val Ala Pro Gly Pro Glu Asp Ser
65 70 75

Thr Ala Gln Glu Arg Leu Asp Gln Gly Gly Gly Ser Leu Gly Pro 80 85 90

Gly Ala Ile Ala Ala Ile Val Ile Ala Ala Leu Leu Ala Thr Cys 95 100 105

Val Val Leu Ala Leu Val Val Val Ala Leu Arg Lys Phe Ser Ala 110 115 120

Ser

<210> 355

<211> 2134

<212> DNA

<213> Homo sapiens

<400> 355

ggccgttggt tggtgcgcgg ctgaagggtg tggcgcgagc agcgtcgttg 50

gttggccggc ggcgggccgg gacgggcatg gccctgctgc tgtgcctggt 100

gtgcctgacg gcggcgctgg cccacggctg tctgcactgc cacagcaact 150 tctccaagaa gttctccttc taccgccacc atgtgaactt caagtcctgg 200 tgggtgggcg acatccccgt gtcaggggcg ctgctcaccg actggagcga 250 cgacacgatg aaggagctgc acctggccat ccccgccaag atcacccggg 300 agaagctgga ccaagtggcg acagcagtgt accagatgat ggatcagctg 350 taccagggga agatgtactt ccccgggtat ttccccaacg agctgcgaaa 400 catcttccgg gagcaggtgc acctcatcca gaacgccatc atcgaaaggc 450 acctggcacc aggcagctgg ggaggaggc agctctccag ggagggaccc 500 agectageae etgaaggate aatgecatea eeeegegggg aceteeeeta 550 agtagecece agaggegetg ggagtgttge cacegecete ecetgaagtt 600 tgctccatct cacgctgggg gtcaacctgg ggaccccttc cctccgggcc 650 atggacacac atacatgaaa accaggccgc atcgactgtc agcaccgctg 700 tggcatcttc cagtacgaga ccatctcctg caacaactgc acagactcgc 750 acgtcgcctg ctttggctat aactgcgagt agggctcagg catcacaccc 800 acceptgeca gggecetaet gteeetgggg teeeaggete teettggagg 850 gggctccccg ccttccacct ggctgtcatc gggtagggcg gggccgtggg 900 ttcaggggcg caccacttcc aagcctgtgt cccacaggtc ctcggcgcag 950 tggaagtcag ctgtccaggg cctcctgaac tacataaata actggcacaa 1000 gtaagtcccc tcctcaaacc aacacaggca gtgtgtgtat gtgagcacct 1050 cgtgggtgag tatgtgtggg gcacaggctg gctccctcag ctcccacgtc 1100 ctagaggggc tcccgaggag gtggaacctc aacccagctc tgcgcaggag 1150 gcggctgcag tccttttctc cctcaaaggt ctccgaccct cagctggagg 1200 cgggcatctt tcctaaaggg tccccatagg gtctggttcc accccatccc 1250 aggtctgtgg tcagagcctg ggagggttcc ctacgatggt taggggtgcc 1300 ccatggaggg gctgactgcc ccacattgcc tttcagacag gacacgagca 1350 tgaggtaagg ccgccctgac ctggacttca gggggagggg gtaaagggag 1400 agaggagggg ggctaggggg tcctctagat cagtgggggc actgcaggtg 1450 gggctctccc tatacctggg acacctgctg gatgtcacct ctgcaaccac 1500 acccatgtgg tggtttcatg aacagaccac gctcctctgc cttctcctgg 1550

cetgggacac acagagecae eceggeettg tgagtgacee agagaagga 1600 ggeeteggga gaaggggtge tegtaageea acaceagegt geegeggeet 1650 geacaceett eggacateee aggeaegagg gtgtegtgga tgtgggeaea 1700 cataggacea caegteeeag etgggagga aggeetgggg eeeeeaggga 1750 gggaggeagg gggtggggga eatggagage tgaggeagee tegteteee 1800 geageetggt ategeeagee ttaaggtgte tggageeeee acaettggee 1850 aaeetgaeet tggaagatge tgetgagtgt eteaageage actgaeagea 1900 getgggeetg eeeeagggea aegtggggg ggagggge ggagggeetgg etggaeeteg etggaeagee 1950 eetgeetgte actetggage tgggetgetg etgeeteagg aceeeetete 2000 egaeeeegga eagagetgag etggeeaggg eeagaggge gggagggagg 2050 gaatgggggt gggetgteg eageateage geetggeag gteegeagag 2100 etgegggatg tgattaaagt eeetgatgt tete 2134

<210> 356

<211> 157

<212> PRT

<213> Homo sapiens

<400> 356

Met Ala Leu Leu Cys Leu Val Cys Leu Thr Ala Ala Leu Ala 1 5 10 15

His Gly Cys Leu His Cys His Ser Asn Phe Ser Lys Lys Phe Ser 20 25 30

Phe Tyr Arg His His Val Asn Phe Lys Ser Trp Trp Val Gly Asp 35 40 45

Ile Pro Val Ser Gly Ala Leu Leu Thr Asp Trp Ser Asp Asp Thr 50 55 60

Met Lys Glu Leu His Leu Ala Ile Pro Ala Lys Ile Thr Arg Glu 65 70 75

Lys Leu Asp Gln Val Ala Thr Ala Val Tyr Gln Met Met Asp Gln 80 85 90

Leu Tyr Gln Gly Lys Met Tyr Phe Pro Gly Tyr Phe Pro Asn Glu
95 100 105

Leu Arg Asn Ile Phe Arg Glu Gln Val His Leu Ile Gln Asn Ala 110 115 120

Ile Ile Glu Arg His Leu Ala Pro Gly Ser Trp Gly Gly Gln 125 130 135

Leu Ser Arg Glu Gly Pro Ser Leu Ala Pro Glu Gly Ser Met Pro

## Ser Pro Arg Gly Asp Leu Pro 155

<210> 357 <211> 1536 <212> DNA

<213> Homo sapiens

<400> 357 agcaggagca ggagagggac aatggaagct gccccgtcca ggttcatgtt 50 cctcttattt ctcctcacgt gtgagctggc tgcagaagtt gctgcagaag 100 ttgagaaatc ctcagatgqt cctqqtgctg cccaggaacc cacgtggctc 150 acagatgtcc cagctgccat ggaattcatt gctgccactg aggtggctgt 200 cataggette ttecaggatt tagaaatace ageagtgeee atacteeata 250 gcatggtgca aaaattccca ggcgtgtcat ttgggatcag cactgattct 300 gaggttctga cacactacaa catcactggg aacaccatct gcctctttcg 350 cctqqtaqac aatqaacaac tqaatttaqa qqacqaaqac attqaaaqca 400 ttgatgccac caaattgagc cgtttcattg agatcaacag cctccacatg 450 gtgacagagt acaaccctgt gactgtgatt gggttattca acagcgtaat 500 tcagattcat ctcctcctga taatgaacaa ggcctcccca gagtatgaag 550 agaacatgca cagataccag aaggcagcca agctcttcca ggggaagatt 600 ctctttattc tggtggacag tggtatgaaa gaaaatggga aggtgatatc 650 atttttcaaa ctaaaggagt ctcaactgcc agctttggca atttaccaga 700 ctctagatga cgagtgggat acactgccca cagcagaagt ttccgtagag 750 catgtgcaaa acttttgtga tggattccta agtggaaaat tgttgaaaga 800 aaatcgtgaa tcagaaggaa agactccaaa ggtggaactc tgacttctcc 850 ttggaactac atatggccaa gtatctactt tatgcaaagt aaaaaggcac 900 aactcaaatc tcagagacac taaacaacag gatcactagg cctgccaacc 950 acacacaca qeaeqtqeae acacqeaeqe acqeqtqeae acacacacqe 1000 gcacacacac acacacag agettcattt cetgtettaa aatetegttt 1050 tetettette ettetttaa attteatate eteaeteeet ateeaattte 1100 cttcttatcg tgcattcata ctctgtaagc ccatctgtaa cacacctaga 1150 tcaaggcttt aagagactca ctgtgatgcc tctatgaaag agaggcattc 1200

ctagagaaag attgttccaa tttgtcattt aatatcaagt ttgtatactg 1250 cacatgactt acacacaaca tagttcctgc tcttttaagg ttacctaagg 1300 gttgaaactc taccttcttt cataagcaca tgtccgtctc tgactcagga 1350 tcaaaaacca aaggatggtt ttaaacacct ttgtgaaatt gtctttttgc 1400 cagaagttaa aggctgtctc caagtccctg aactcagcag aaatagacca 1450 tgtgaaaact ccatgcttgg ttagcatctc caactcccta tgtaaatcaa 1500 caacctgcat aataaataaa aggcaatcat gttata 1536

<210> 358 <211> 273 <212> PRT <213> Homo sapiens

<400> 358 Met Glu Ala Ala Pro Ser Arg Phe Met Phe Leu Leu Phe Leu Leu Thr Cys Glu Leu Ala Ala Glu Val Ala Ala Glu Val Glu Lys Ser Ser Asp Gly Pro Gly Ala Ala Gln Glu Pro Thr Trp Leu Thr Asp Val Pro Ala Ala Met Glu Phe Ile Ala Ala Thr Glu Val Ala Val Ile Gly Phe Phe Gln Asp Leu Glu Ile Pro Ala Val Pro Ile Leu His Ser Met Val Gln Lys Phe Pro Gly Val Ser Phe Gly Ile Ser Thr Asp Ser Glu Val Leu Thr His Tyr Asn Ile Thr Gly Asn Thr 105 100 Ile Cys Leu Phe Arg Leu Val Asp Asn Glu Gln Leu Asn Leu Glu 115 Asp Glu Asp Ile Glu Ser Ile Asp Ala Thr Lys Leu Ser Arg Phe 135 130 Ile Glu Ile Asn Ser Leu His Met Val Thr Glu Tyr Asn Pro Val 150 145 Thr Val Ile Gly Leu Phe Asn Ser Val Ile Gln Ile His Leu Leu 160 165 Leu Ile Met Asn Lys Ala Ser Pro Glu Tyr Glu Glu Asn Met His Arg Tyr Gln Lys Ala Ala Lys Leu Phe Gln Gly Lys Ile Leu Phe 190 195

```
Ile Leu Val Asp Ser Gly Met Lys Glu Asn Gly Lys Val Ile Ser
 Phe Phe Lys Leu Lys Glu Ser Gln Leu Pro Ala Leu Ala Ile Tyr
                 215
 Gln Thr Leu Asp Asp Glu Trp Asp Thr Leu Pro Thr Ala Glu Val
 Ser Val Glu His Val Gln Asn Phe Cys Asp Gly Phe Leu Ser Gly
Lys Leu Leu Lys Glu Asn Arg Glu Ser Glu Gly Lys Thr Pro Lys
                                      265
Val Glu Leu
<210> 359
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 359
ccagcagtgc ccatactcca tagc 24
<210> 360
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-20
<223> Synthetic construct.
<400> 360
tgacgagtgg gatacactgc 20
<210> 361
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 361
gctctacgga aacttctgct gtgg 24
<210> 362
```

```
<211> 50
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-50
<223> Synthetic construct.
<400> 362
attcccaggc gtgtcatttg ggatcagcac tgattctgag gttctgacac 50
<210> 363
<211> 1777
<212> DNA
<213> Homo sapiens
<400> 363
ggagagccgc ggctgggacc ggagtgggga gcgcggcgtg gaggtgccac 50
ccggcgcggg tggcggagag atcagaagcc tcttccccaa gccgagccaa 100
cctcagcggg gacccgggct cagggacgcg gcggcggcgg cggcgactgc 150
agtggctgga cgatggcagc gtccgccgga gccggggcgg tgattgcagc 200
cccagacage eggegetgge tgtggteggt getggeggeg gegettggge 250
tcttgacagc tggagtatca gccttggaag tatatacgcc aaaagaaatc 300
ttcgtggcaa atggtacaca agggaagctg acctgcaagt tcaagtctac 350
tagtacgact ggcgggttga cctcagtctc ctggagcttc cagccagagg 400
gggccgacac tactgtgtcg tttttccact actcccaagg gcaagtgtac 450
cttgggaatt atccaccatt taaagacaga atcagctggg ctggagacct 500
tgacaagaaa gatgcatcaa tcaacataga aaatatgcag tttatacaca 550
atggcaccta tatctgtgat gtcaaaaacc ctcctgacat cgttgtccag 600
cctggacaca ttaggctcta tgtcgtagaa aaagagaatt tgcctgtgtt 650
tccagtttgg gtagtggtgg gcatagttac tgctgtggtc ctaggtctca 700
ctctgctcat cagcatgatt ctggctgtcc tctatagaag gaaaaactct 750
aaacgggatt acactggctg cagtacatca gagagtttgt caccagttaa 800
gcaggctcct cggaagtccc cctccgacac tgagggtctt gtaaagagtc 850
tgccttctgg atctcaccag ggcccagtca tatatgcaca gttagaccac 900
tccggcggac atcacagtga caagattaac aagtcagagt ctgtggtgta 950
```

tgcggatatc cgaaagaatt aagagaatac ctagaacata tcctcagcaa 1000

gaaacaaaac caaactggac tctcgtgcag aaaatgtagc ccattaccac 1050 atgtagcctt ggagacccag gcaaggacaa gtacacgtgt actcacagag 1100 ggagagaaag atgtgtacaa aggatatgta taaatattct atttagtcat 1150 cctgatatga ggagccagtg ttgcatgatg aaaagatggt atgattctac 1200 atatgtaccc attgtcttgc tgtttttgta ctttcttttc aggtcattta 1250 caattgggag atttcagaaa cattcctttc accatcattt agaaatggtt 1300 tgccttaatg gagacaatag cagatcctgt agtatttcca gtagacatgg 1350 ccttttaatc taagggctta agactgatta gtcttagcat ttactgtagt 1400 tggaggatgg agatgctatg atggaagcat acccagggtg gcctttagca 1450 cagtatcagt accatttatt tgtctgccgc ttttaaaaaa tacccattgg 1500 ctatgccact tgaaaacaat ttgagaagtt tttttgaagt ttttctcact 1550 aaaatatggg gcaattgtta gccttacatg ttgtgtagac ttactttaag 1600 tttgcaccct tgaaatgtgt catatcaatt tctggattca taatagcaag 1650 attagcaaag gataaatgcc gaaggtcact tcattctgga cacagttgga 1700 tcaatactga ttaagtagaa aatccaagct ttgcttgaga acttttgtaa 1750 cgtggagagt aaaaagtatc ggtttta 1777

<210> 364

<211> 269

<212> PRT

<213> Homo sapiens

<400> 364

Met Ala Ala Ser Ala Gly Ala Gly Ala Val Ile Ala Ala Pro Asp 1 5 10 15

Ser Arg Arg Trp Leu Trp Ser Val Leu Ala Ala Ala Leu Gly Leu 20 25 30

Leu Thr Ala Gly Val Ser Ala Leu Glu Val Tyr Thr Pro Lys Glu 35 40 45

Ile Phe Val Ala Asn Gly Thr Gln Gly Lys Leu Thr Cys Lys Phe 50 55 60

Lys Ser Thr Ser Thr Thr Gly Gly Leu Thr Ser Val Ser Trp Ser
65 70 75

Phe Gln Pro Glu Gly Ala Asp Thr Thr Val Ser Phe Phe His Tyr 80 85 90

Ser Gln Gly Gln Val Tyr Leu Gly Asn Tyr Pro Pro Phe Lys Asp 95 100 105

```
Arg Ile Ser Trp Ala Gly Asp Leu Asp Lys Lys Asp Ala Ser Ile I20

Asn Ile Glu Asn Met Gln Phe Ile His Asn Gly Thr Tyr Ile Cys I35

Asp Val Lys Asn Pro Pro Asp Ile Val Val Gln Pro Gly His Ile I50

Arg Leu Tyr Val Val Gly Iss Glu Lys Glu Asn Leu Pro Val Phe Pro Val I55

Trp Val Val Val Gly Ile Val Thr Ala Val Glo Tyr Arg Arg Leu Thr I80

Leu Leu Ile Ser Met I85 Ile Leu Ala Val Leu Tyr Arg Arg Lys Asn 195

Ser Lys Arg Asp Tyr Thr Gly Cys Ser Thr Ser Glu Ser Leu Ser 210

Pro Val Lys Gln Ala Pro Arg Lys Gly Ser Pro Ser Asp Thr Glu Gly 225

Leu Val Lys Ser Leu Asp His Ser Gly Ser His Gln Gly Pro Val Ile Z40

Tyr Ala Gln Leu Asp His Ser Gly Gly His Ser Asp Lys Asn Lys Ile Xarg Lys Asn Lys Ser Lys Ser Asp Lys Asn Lys Asn Lys Ser Ala Gln Leu Asp Lys Asn Lys Ser Asp Lys Ile Xarg Lys Asn Lys Ser Asp Lys Ile Xarg Lys Ser Asp Lys Ile Xarg Lys Ser Asp Lys Ile Xarg Lys Asn Lys Ser Lys Ser Asp Lys Ile Xarg Lys Asn Lys Ser Lys Ser Lys Xarg Lys Xarg Lys Xarg Lys Ser Lys Xarg Lys
```

<210> 365

<211> 1321

<212> DNA

<213> Homo sapiens

<400> 365

geoggetgtg cagagacgec atgtacegge teetgteage agtgaetgee 50 cgggetgeeg ceeeegggg ettggeetea agetgeggae gaegggggt 100 ceateagege geogggetge egeetetegg ceaeggetgg gtegggggee 150 tegggetggg getggggetg gegetegggg tgaagetgge aggtgggetg 200 aggggeegg eeeeggea gteeeeeggg geeeegaee etgaggegte 250 geetetggee gageegeae aggageagte eeteggeee tggteteege 300 agaeeeegge geegeetge teeaggtget tegeeagae eategagae 350 ageeggeae tgetgeaeag gateaaggat gaggtggee eacegggeat 400 agtggttga gtttetgtag atggaaaaga agtetggtea gaaggtttag 450 gttatgetga tgttgagaae egtgtaeeat gtaaaeeaga gaeagttatg 500

cgaattgcta gcatcagcaa aagtctcacc atggttgctc ttgccaaatt 550 gtgggaagca gggaaactgg atcttgatat tccagtacaa cattatgttc 600 ccgaattccc agaaaaagaa tatgaaggtg aaaaggtttc tgtcacaaca 650 agattactga tttcccattt aagtggaatt cgtcattatg aaaaggacat 700 aaaaaaggtg aaagaagaga aagcttataa agccttgaag atgatgaaag 750 agaatgttgc atttgagcaa gaaaaagaag gcaaaagtaa tgaaaagaat 800 gattttacta aatttaaaac agagcaggag aatgaagcca aatgccggaa 850 ttcaaaacct ggcaagaaaa agaatgattt tgaacaaggc gaattatatt 900 tgagagaaaa gtttgaaaat tcaattgaat ccctaagatt atttaaaaat 950 gatcctttgt tcttcaaacc tggtagtcag tttttgtatt caacttttgg 1000 ctatacccta ctggcagcca tagtagagag agcttcagga tgtaaatatt 1050 tggactatat gcagaaaata ttccatgact tggatatgct gacgactgtg 1100 caggaagaaa acgagccagt gatttacaat agagcaaggt aaatgaatac 1150 cttctgctgt gtctagctat atcgcatctt aacactattt tattaattaa 1200 aagtcaaatt ttctttgttt ccattccaaa atcaacctgc cacattttgg 1250 gagcttttct acatgtctgt tttctcatct gtaaagtgaa ggaagtaaaa 1300 catgtttata aagtaaaaaa a 1321

<210> 366

<211> 373

<212> PRT

<213> Homo sapiens

<400> 366

Met Tyr Arg Leu Leu Ser Ala Val Thr Ala Arg Ala Ala Pro 1 5 10 15

Gly Gly Leu Ala Ser Ser Cys Gly Arg Arg Gly Val His Gln Arg
20 25 30

Ala Gly Leu Pro Pro Leu Gly His Gly Trp Val Gly Gly Leu Gly 35 40 45

Leu Gly Leu Gly Leu Gly Val Lys Leu Ala Gly Gly Leu 50 55 60

Arg Gly Ala Ala Pro Ala Gln Ser Pro Ala Ala Pro Asp Pro Glu 65 70 75

Ala Ser Pro Leu Ala Glu Pro Pro Gln Glu Gln Ser Leu Ala Pro 80 85 90

Trp	Ser	Pro	Gln	Thr 95	Pro	Ala	Pro	Pro	Cys 100	Ser	Arg	Cys	Phe	Ala 105
Arg	Ala	Ile	Glu	Ser 110	Ser	Arg	Asp	Leu	Leu 115	His	Arg	Ile	Lys	Asp 120
Glu	Val	Gly	Ala	Pro 125	Gly	Ile	Val	Val	Gly 130	Val	Ser	Val	Asp	Gly 135
Lys	Glu	Val	Trp	Ser 140	Glu	Gly	Leu	Gly	Tyr 145	Ala	Asp	Val	Glu	Asn 150
Arg	Val	Pro	Cys	Lys 155	Pro	Glu	Thr	Val	Met 160	Arg	Ile	Ala	Ser	Ile 165
Ser	Lys	Ser	Leu	Thr 170	Met	Val	Ala	Leu	Ala 175	Lys	Leu	Trp	Glu	Ala 180
Gly	Lys	Leu	Asp	Leu 185	Asp	Ile	Pro	Val	Gln 190	His	Tyr	Val	Pro	Glu 195
Phe	Pro	Glu	Lys	Glu 200	Tyr	Glu	Gly	Glu	Lys 205	Val	Ser	Val	Thr	Thr 210
Arg	Leu	Leu	Ile	Ser 215	His	Leu	Ser	Gly	Ile 220	Arg	His	Tyr	Glu	Lys 225
Asp	Ile	Lys	Lys	Val 230	Lys	Glu	Glu	Lys	Ala 235	Tyr	Lys	Ala	Leu	Lys 240
Met	Met	Lys	Glu	Asn 245	Val	Ala	Phe	Glu	Gln 250	Glu	Lys	Glu	Gly	Lys 255
Ser	Asn	Glu	Lys	Asn 260	_	Phe	Thr	Lys		Lys		Glu	Gln	Glu 270
Asn	Glu	Ala	Lys	Cys 275	Arg	Asn	Ser	Lys	Pro 280	Gly	Lys	Lys	Lys	Asn 285
Asp	Phe	Glu	Gln	Gly 290	Glu	Leu	Tyr	Leu	Arg 295	Glu	Lys	Phe	Glu	Asn 300
Ser	Ile	Glu	Ser	Leu 305	Arg	Leu	Phe	Lys	Asn 310	Asp	Pro	Leu	Phe	Phe 315
Lys	Pro	Gİy	Ser	Gln 320	Phe	Leu	Tyr	Ser	Thr 325	Phe	Gly	Tyr	Thr	Leu 330
Leu	Ala	Ala	Ile	Val 335	Glu	Arg	Ala	Ser	Gly 340	Cys	Lys	Tyr	Leu	Asp 345
Tyr	Met	Gln	Lys	Ile 350	Phe	His	Asp	Leu	Asp 355	Met	Leu	Thr	Thr	Val 360
Gln	Glu	Glu	Asn	Glu 365	Pro	Val	Ile	Tyr	Asn 370	Arg	Ala	Arg		

<210> 367

```
<211> 30
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-30
<223> Synthetic construct.
<400> 367
tggaaaagaa gtctggtcag aaggtttagg 30
<210> 368
<211> 25
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-25
<223> Synthetic construct.
<400> 368
catttggctt cattctcctg ctctg 25
<210> 369
<211> 28
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-28
<223> Synthetic construct.
<400> 369
aaaacctcag aacaactcat tttgcacc 28
<210> 370
<211> 41
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-41
<223> Synthetic construct.
<400> 370
 gtctcaccat ggttgctctt gccaaattgt gggaagcagg g 41
<210> 371
<211> 1150
<212> DNA
<213> Homo sapiens
<400> 371
 gtgacactat agaagagcta tgacgtcgca tgcacgcgta cgtaagctcg 50
```

gaattcggct cgaggctggt gggaagaagc cgagatggcg gcagccagcg 100 ctggggcaac ccggctgctc ctgctcttgc tgatggcggt agcagcgccc 150 agtcgagccc ggggcagcgg ctgccgggcc gggactggtg cgcgaggggc 200 tggggcggaa ggtcgagagg gcgaggcctg tggcacggtg gggctgctgc 250 tggagcactc atttgagatc gatgacagtg ccaacttccg gaagcggggc 300 tcactgctct ggaaccagca ggatggtacc ttgtccctgt cacagcggca 350 gctcagcgag gaggagcggg gccgactccg ggatgtggca gccctgaatg 400 gcctgtaccg ggtccggatc ccaaggcgac ccggggccct ggatggcctg 450 gaagetggtg getatgtete eteetttgte eetgegtget eeetggtgga 500 gtcgcacctg tcggaccagc tgaccctgca cgtggatgtg gccggcaacg 550 tggtgggcgt gtcggtggtg acgcaccccg ggggctgccg gggccatgag 600 gtggaggacg tggacctgga gctgttcaac acctcggtgc agctgcagcc 650 gcccaccaca gccccaggcc ctgagacggc ggccttcatt gagcgcctgg 700 agatggaaca ggcccagaag gccaagaacc cccaggagca gaagtccttc 750 ttcgccaaat actggatgta catcattccc gtcgtcctgt tcctcatgat 800 gtcaggagcg ccagacaccg ggggccaggg tgggggtggg ggtgggggtg 850 gtggtggggg tagtggcctt tgctgtgtgc caccctccct gtaagtctat 900 ttaaaaacat cgacgataca ttgaaatgtg tgaacgtttt gaaaagctac 950 agettecage agecaaaage aactgttgtt ttggcaagae ggteetgatg 1000 tacaagcttq attgaaattc actgctcact tgatacgtta ttcagaaacc 1050 caaggaatgg ctgtccccat cctcatgtgg ctgtgtggag ctcagctgtg 1100 ttgtgtggca gtttattaaa ctgtccccca gatcgacacg caaaaaaaaa 1150

<210> 372

<211> 269

<212> PRT

<213> Homo sapiens

<400> 372

Met Ala Ala Ser Ala Gly Ala Thr Arg Leu Leu Leu Leu 1 5 10 15

Leu Met Ala Val Ala Ala Pro Ser Arg Ala Arg Gly Ser Gly Cys 20 25 30

Arg Ala Gly Thr Gly Ala Arg Gly Ala Gly Ala Glu Gly Arg Glu
35 40 45

```
Gly Glu Ala Cys Gly Thr Val Gly Leu Leu Glu His Ser Phe
Glu Ile Asp Asp Ser Ala Asn Phe Arg Lys Arg Gly Ser Leu Leu
                                     70
Trp Asn Gln Gln Asp Gly Thr Leu Ser Leu Ser Gln Arg Gln Leu
Ser Glu Glu Glu Arg Gly Arg Leu Arg Asp Val Ala Ala Leu Asn
Gly Leu Tyr Arg Val Arg Ile Pro Arg Arg Pro Gly Ala Leu Asp
Gly Leu Glu Ala Gly Gly Tyr Val Ser Ser Phe Val Pro Ala Cys
Ser Leu Val Glu Ser His Leu Ser Asp Gln Leu Thr Leu His Val
Asp Val Ala Gly Asn Val Val Gly Val Ser Val Val Thr His Pro
Gly Gly Cys Arg Gly His Glu Val Glu Asp Val Asp Leu Glu Leu
                                    175
Phe Asn Thr Ser Val Gln Leu Gln Pro Pro Thr Thr Ala Pro Gly
                185
Pro Glu Thr Ala Ala Phe Ile Glu Arg Leu Glu Met Glu Gln Ala
                200
                                    205
                                                        210
Gln Lys Ala Lys Asn Pro Gln Glu Gln Lys Ser Phe Phe Ala Lys
Tyr Trp Met Tyr Ile Ile Pro Val Val Leu Phe Leu Met Met Ser
Gly Ala Pro Asp Thr Gly Gly Gln Gly Gly Gly Gly Gly Gly
Gly Gly Gly Ser Gly Leu Cys Cys Val Pro Pro Ser Leu
```

<210> 373

<211> 1706

<212> DNA

<213> Homo sapiens

<400> 373

ggagegetge tggaacccga geeggageeg gagecacage ggggagggtg 50 geetggegge etggageegg aegtgteegg ggegteeeeg cagacegggg 100 cageaggteg teegggggee caccatgetg gtgaetgeet aeettgettt 150 tgtaggeete etggeeteet geetgggget ggaactgtea agatgeeggg 200

ctaaaccccc tggaagggcc tgcagcaatc cctccttcct tcggtttcaa 250 ctggacttct atcaggtcta cttcctggcc ctggcagctg attggcttca 300 ggccccctac ctctataaac tctaccagca ttactacttc ctggaaggtc 350 aaattgccat cctctatgtc tgtggccttg cctctacagt cctctttggc 400 ctagtggcct cctcccttgt ggattggctg ggtcgcaaga attcttgtgt 450 cctcttctcc ctgacttact cactatgctg cttaaccaaa ctctctcaag 500 actactttgt gctgctagtg gggcgagcac ttggtgggct gtccacagcc 550 ctgctcttct cagccttcga ggcctggtat atccatgagc acgtggaacg 600 gcatgacttc cctgctgagt ggatcccagc tacctttgct cgagctgcct 650 tctggaacca tgtgctggct gtagtggcag gtgtggcagc tgaggctgta 700 gccagctgga tagggctggg gcctgtagcg ccctttgtgg ctgccatccc 750 tctcctggct ctggcagggg ccttggccct tcgaaactgg ggggagaact 800 atgaccggca gcgtgccttc tcaaggacct gtgctggagg cctgcgctgc 850 ctcctgtcgg accgccgcgt gctgctgctg ggcaccatac aagctctatt 900 tgagagtgtc atcttcatct ttgtcttcct ctggacacct gtgctggacc 950 cacacggggc ccctctgggc attatcttct ccagcttcat ggcagccagc 1000 ctgcttggct cttccctgta ccgtatcgcc acctccaaga ggtaccacct 1050 tcagcccatg cacctgctgt cccttgctgt gctcatcgtc gtcttctctc 1100 tcttcatgtt gactttctct accagcccag gccaggagag tccggtggag 1150 tccttcatag cctttctact tattgagttg gcttgtggat tatactttcc 1200 cagcatgage ttectaegga gaaaggtgat eeetgagaca gageaggetg 1250 gtgtactcaa ctggttccgg gtacctctgc actcactggc ttgcctaggg 1300 ctccttgtcc tccatgacag tgatcgaaaa acaggcactc ggaatatgtt 1350 cagcatttgc tctgctgtca tggtgatggc tctgctggca gtggtgggac 1400 tcttcaccgt ggtaaggcat gatgctgagc tgcgggtacc ttcacctact 1450 gaggagccct atgcccctga gctgtaaccc cactccagga caagatagct 1500 gggacagact cttgaattcc agctatccgg gattgtacag atctctctgt 1550 gactgacttt gtgactgtcc tgtggtttct cctgccattg ctttgtgttt 1600 gggaggacat gatgggggtg atggactgga aagaaggtgc caaaagttcc 1650

ctctgtgtta ctcccattta gaaaataaac acttttaaat gatcaaaaaa 1700 aaaaaa 1706

<210> 374

<211> 450

<212> PRT

<213> Homo sapiens

<400> 374

Met Leu Val Thr Ala Tyr Leu Ala Phe Val Gly Leu Leu Ala Ser 1 5 10 15

Cys Leu Gly Leu Glu Leu Ser Arg Cys Arg Ala Lys Pro Pro Gly 20 25 30

Arg Ala Cys Ser Asn Pro Ser Phe Leu Arg Phe Gln Leu Asp Phe

Tyr Gln Val Tyr Phe Leu Ala Leu Ala Ala Asp Trp Leu Gln Ala 50 55 60

Pro Tyr Leu Tyr Lys Leu Tyr Gln His Tyr Tyr Phe Leu Glu Gly 65 70 75

Gln Ile Ala Ile Leu Tyr Val Cys Gly Leu Ala Ser Thr Val Leu 80 85 90

Phe Gly Leu Val Ala Ser Ser Leu Val Asp Trp Leu Gly Arg Lys 95 100 105

Asn Ser Cys Val Leu Phe Ser Leu Thr Tyr Ser Leu Cys Cys Leu 110 115 120

Thr Lys Leu Ser Gln Asp Tyr Phe Val Leu Leu Val Gly Arg Ala 125 130 135

Leu Gly Gly Leu Ser Thr Ala Leu Leu Phe Ser Ala Phe Glu Ala 140 145 150

Trp Tyr Ile His Glu His Val Glu Arg His Asp Phe Pro Ala Glu
155 160 165

Trp Ile Pro Ala Thr Phe Ala Arg Ala Ala Phe Trp Asn His Val

Leu Ala Val Val Ala Gly Val Ala Ala Glu Ala Val Ala Ser Trp
185 190 195

Ile Gly Leu Gly Pro Val Ala Pro Phe Val Ala Ala Ile Pro Leu 200 205 210

Leu Ala Leu Ala Leu Ala Leu Arg Asn Trp Gly Glu Asn 215 220 225

Tyr Asp Arg Gln Arg Ala Phe Ser Arg Thr Cys Ala Gly Gly Leu 230 235 240

```
Arg Cys Leu Leu Ser Asp Arg Arg Val Leu Leu Gly Thr Ile
                245
Gln Ala Leu Phe Glu Ser Val Ile Phe Ile Phe Val Phe Leu Trp
Thr Pro Val Leu Asp Pro His Gly Ala Pro Leu Gly Ile Ile Phe
Ser Ser Phe Met Ala Ala Ser Leu Leu Gly Ser Ser Leu Tyr Arg
Ile Ala Thr Ser Lys Arg Tyr His Leu Gln Pro Met His Leu Leu
Ser Leu Ala Val Leu Ile Val Val Phe Ser Leu Phe Met Leu Thr
Phe Ser Thr Ser Pro Gly Gln Glu Ser Pro Val Glu Ser Phe Ile
                                    340
Ala Phe Leu Leu Ile Glu Leu Ala Cys Gly Leu Tyr Phe Pro Ser
Met Ser Phe Leu Arg Arg Lys Val Ile Pro Glu Thr Glu Gln Ala
                365
Gly Val Leu Asn Trp Phe Arg Val Pro Leu His Ser Leu Ala Cys
                380
Leu Gly Leu Leu Val Leu His Asp Ser Asp Arg Lys Thr Gly Thr
                395
Arg Asn Met Phe Ser Ile Cys Ser Ala Val Met Val Met Ala Leu
                410
                                    415
Leu Ala Val Val Gly Leu Phe Thr Val Val Arg His Asp Ala Glu
                                    430
Leu Arg Val Pro Ser Pro Thr Glu Glu Pro Tyr Ala Pro Glu Leu
```

<210> 375

<211> 1098

<212> DNA

<213> Artificial

<400> 375

gcgacgcgc gcggggcgc gagaggaaac gcggcgccg gccgggcccg 50 gccctggaga tggtcccgg cgccgcggc tggtgttgtc tcgtgctctg 100 gctcccgcg tgcgtcgcgg cccacggctt ccgtatccat gattatttgt 150 actttcaagt gctgagtcct ggggacattc gatacatctt cacagccaca 200 cctgccaagg actttggtgg tatctttcac acaaggtatg agcagattca 250

445

ccttgtcccc gctgaacctc cagaggcctg cggggaactc agcaacggtt 300 tcttcatcca ggaccagatt gctctggtgg agagggggg ctgctccttc 350 ctctccaaqa ctcqqqtqqt ccaqqaqcac ggcqgqcqqq cqqtqatcat 400 ctctgacaac gcagttgaca atgacagctt ctacgtggag atgatccagg 450 acagtaccca gcgcacagct gacatccccg ccctcttcct gctcggccga 500 gacggctaca tgatccgccg ctctctggaa cagcatgggc tgccatgggc 550 catcatttcc atcccagtca atgtcaccag catccccacc tttgagctgc 600 tgcaaccgcc ctggaccttc tggtagaaga gtttgtccca cattccagcc 650 ataagtgact ctgagctggg aaggggaaac ccaggaattt tgctacttgg 700 aatttggaga tagcatctgg ggacaagtgg agccaggtag aggaaaaggg 750 cccagggccc ccaagggtgt ctcatgctac aagaagaggc aagagacagg 850 ccccagggct tctggctaga acccgaaaca aaaggagctg aaggcaggtg 900 gcctgagagc catctgtgac ctgtcacact cacctggetc cagceteece 950 tacccagggt ctctgcacag tgaccttcac agcagttgtt ggagtggttt 1000 aaagagctgg tgtttgggga ctcaataaac cctcactgac tttttagcaa 1050 taaagcttct catcagggtt gcaaaaaaaa aaaaaaaaa aaaaaaaa 1098

<210> 376

<211> 188

<212> PRT

<213> Homo sapiens

<400> 376

Met Val Pro Gly Ala Ala Gly Trp Cys Cys Leu Val Leu Trp Leu 1 5 10 15

Pro Ala Cys Val Ala Ala His Gly Phe Arg Ile His Asp Tyr Leu 20 25 30

Tyr Phe Gln Val Leu Ser Pro Gly Asp Ile Arg Tyr Ile Phe Thr 35 40 45

Ala Thr Pro Ala Lys Asp Phe Gly Gly Ile Phe His Thr Arg Tyr
50 55 60

Glu Gln Ile His Leu Val Pro Ala Glu Pro Pro Glu Ala Cys Gly
65 70 75

Glu Leu Ser Asn Gly Phe Phe Ile Gln Asp Gln Ile Ala Leu Val $80 \\ 85 \\ 90$ 

```
Glu Arg Gly Cys Ser Phe Leu Ser Lys Thr Arg Val Val Gln
Glu His Gly Gly Arg Ala Val Ile Ile Ser Asp Asn Ala Val Asp
                                     115
Asn Asp Ser Phe Tyr Val Glu Met Ile Gln Asp Ser Thr Gln Arg
Thr Ala Asp Ile Pro Ala Leu Phe Leu Leu Gly Arg Asp Gly Tyr
Met Ile Arg Arg Ser Leu Glu Gln His Gly Leu Pro Trp Ala Ile
Ile Ser Ile Pro Val Asn Val Thr Ser Ile Pro Thr Phe Glu Leu
                                     175
                 170
Leu Gln Pro Pro Trp Thr Phe Trp
                 185
<210> 377
<211> 496
<212> DNA
```

<213> Artificial

<220>

<221> unsure

<222> 396

<223> unknown base

<400> 377

tctgcctcca ctgctctgtg ctgggatcat ggaacttgca ctgctgtgtg 50 ggctggtggt qatggctggt qtgattccaa tccagggcgg gatcctgaac 100 ctgaacaaga tggtcaagca agtgactggg aaaatgccca tcctctccta 150 ctggccctac ggctgtcact gcggactagg tggcagaggc caacccaaag 200 atgccacgga ctggtgctgc cagacccatg actgctgcta tgaccacctg 250 aagacccagg ggtgcggcat ctacaaggac aacaacaaaa gcagcataca 300 ttgtatggat ttatctcaac gctattgttt aatggctgtg tttaatgtga 350 tctatctgga aaatgaggac tccgaataaa aagctattac tawttnaaaa 400 

<210> 378

<211> 116

<212> PRT

<213> Homo sapiens

<400> 378

```
Met Glu Leu Ala Leu Leu Cys Gly Leu Val Val Met Ala Gly Val
 Ile Pro Ile Gln Gly Gly Ile Leu Asn Leu Asn Lys Met Val Lys
 Gln Val Thr Gly Lys Met Pro Ile Leu Ser Tyr Trp Pro Tyr Gly
 Cys His Cys Gly Leu Gly Gly Arg Gly Gln Pro Lys Asp Ala Thr
Asp Trp Cys Cys Gln Thr His Asp Cys Cys Tyr Asp His Leu Lys
 Thr Gln Gly Cys Gly Ile Tyr Lys Asp Asn Asn Lys Ser Ser Ile
 His Cys Met Asp Leu Ser Gln Arg Tyr Cys Leu Met Ala Val Phe
Asn Val Ile Tyr Leu Glu Asn Glu Asp Ser Glu
                 110
<210> 379
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 379
ctgcctccac tgctctgtgc tggg 24
<210> 380
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 380
cagagcagtg gatgttcccc tggg 24
<210> 381
<211> 45
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-45
```

```
<223> Synthetic construct.
<400> 381
 ctgaacaaga tggtcaagca agtgactggg aaaatgccca tcctc 45
<210> 382
<211> 764
<212> DNA
<213> Homo sapiens
<400> 382
 ctcgcttctt ccttctggat gggggcccag ggggcccagg agagtataaa 50
 ggcgatgtgg agggtgcccg gcacaaccag acgcccagtc acaggcgaga 100
 gccctgggat gcaccggcca gaggccatgc tgctgctgct cacgcttgcc 150
 ctcctggggg gccccacctg ggcagggaag atgtatggcc ctggaggagg 200
 caagtatttc agcaccactg aagactacga ccatgaaatc acagggctgc 250
 gggtgtctgt aggtcttctc ctggtgaaaa gtgtccaggt gaaacttgga 300
 gactcctggg acgtgaaact gggagcctta ggtgggaata cccaggaagt 350
 caccetgeag ceaggegaat acateacaaa agtetttgte geetteeaag 400
 ctttcctccg gggtatggtc atgtacacca gcaaggaccg ctatttctat 450
 tttgggaagc ttgatggcca gatctcctct gcctacccca qccaagaggg 500
 gcaggtgctg gtgggcatct atggccagta tcaactcctt ggcatcaaga 550
 gcattggctt tgaatggaat tatccactag aggagccgac cactgagcca 600
 ccagttaatc tcacatactc agcaaactca cccgtgggtc gctagggtgg 650
ggtatggggc catccgagct gaggccatct gtgtggtggt ggctgatggt 700
actggagtaa ctgagtcggg acgctgaatc tgaatccacc aataaataaa 750
gcttctgcag aaaa 764
<210> 383
<211> 178
<212> PRT
<213> Homo sapiens
```

<400> 383

Met His Arg Pro Glu Ala Met Leu Leu Leu Leu Thr Leu Ala Leu 1 5 10 15

Leu Gly Gly Pro Thr Trp Ala Gly Lys Met Tyr Gly Pro Gly Gly 20 25 30

Gly Lys Tyr Phe Ser Thr Thr Glu Asp Tyr Asp His Glu Ile Thr 35 40 45

```
Gly Leu Arg Val Ser Val Gly Leu Leu Leu Leu Gly Ser Val Gln 60

Val Lys Leu Gly Asp Ser Trp Asp Val Lys Leu Gly Ala Leu Gly 75

Gly Asn Thr Gln Glu Val Thr Leu Gln Pro 85 Gly Glu Tyr Ile Thr 90

Lys Val Phe Val Ala Phe Gln Ala Phe Leu Arg Gly Met Val Met 105

Tyr Thr Ser Lys Asp 110 Arg Tyr Phe Tyr Phe Gly Lys Leu Asp Gly 120

Gln Ile Ser Ser Ala Tyr Pro Ser Gln Glu Gly Gln Val Leu Val 135

Gly Ile Tyr Gly Gln Tyr Gln Leu Leu Gly Ile Lys Ser Ile Gly 150

Phe Glu Trp Asn Tyr Pro Leu Glu Glu Pro Thr Thr Glu Pro Pro 165
```

Val Asn Leu Thr Tyr Ser Ala Asn Ser Pro Val Gly Arg
170 175

<210> 384 <211> 2379 <212> DNA

<213> Homo sapiens

<400> 384
gctgagcgtg tgcgcggtac ggggctctcc tgccttctgg gctccaacgc 50
agctctgtgg ctgaactggg tgctcatcac gggaactgct gggctatgga 100
atacagatgt ggcagctcag gtagccccaa attgcctgga agaatacatc 150
atgttttcg ataagaagaa attgtaggat ccagttttt ttttaaccgc 200
cccctcccca cccccaaaa aaactgtaaa gatgcaaaaa cgtaatatcc 250
atgaagatcc tattacctag gaagattttg atgttttgct gcgaatgcgg 300
tgttgggatt tatttgttct tggagtgttc tgcgtggctg gcaaagaata 350
atgttccaaa atcggtccat ctcccaaggg gtccaatttt tcttcctggg 400
tgtcagcgag ccctgactca ctacagtgca gctgacaggg gctgtcatgc 450
aactggccc taagccaaag caaaagacct aaggacgac tttgaacaat 500
acaaaggatg ggtttcaatg taattaggct actgagcgga tcagctgtag 550
cactggttat agccccact gtcttactga caatgctttc ttctgccgaa 600
cgaggatgcc ctaagggctg taggtggaa ggcaaaatgg tatattgtga 650

atctcagaaa ttacaggaga taccctcaag tatatctgct ggttgcttag 700 gtttgtccct tcgctataac agccttcaaa aacttaagta taatcaattt 750 aaagggctca accagctcac ctggctatac cttgaccata accatatcag 800 caatattgac gaaaatgctt ttaatggaat acgcagactc aaagagctga 850 ttcttagttc caatagaatc tcctattttc ttaacaatac cttcagacct 900 gtgacaaatt tacggaactt ggatctgtcc tataatcagc tgcattctct 950 gggatctgaa cagtttcggg gcttgcggaa gctgctgagt ttacatttac 1000 ggtctaactc cctgagaacc atccctgtgc gaatattcca agactgccgc 1050 aacctggaac ttttggacct gggatataac cggatccgaa gtttagccag 1100 gaatgtcttt gctggcatga tcagactcaa agaacttcac ctggagcaca 1150 atcaattttc caagctcaac ctggcccttt ttccaaggtt ggtcagcctt 1200 cagaaccttt acttgcagtg gaataaaatc agtgtcatag gacagaccat 1250 gtcctggacc tggagctcct tacaaaggct tgatttatca ggcaatgaga 1300 tcgaagcttt cagtggaccc agtgttttcc agtgtgtccc gaatctgcag 1350 cgcctcaacc tggattccaa caagctcaca tttattggtc aagagatttt 1400 ggattcttgg atatccctca atgacatcag tcttgctggg aatatatggg 1450 aatgcagcag aaatatttgc tcccttgtaa actggctgaa aagttttaaa 1500 ggtctaaggg agaatacaat tatctgtgcc agtcccaaag agctgcaagg 1550 agtaaatgtg atcgatgcag tgaagaacta cagcatctgt ggcaaaagta 1600 ctacagagag gtttgatctg gccagggctc tcccaaagcc gacgtttaag 1650 cccaagctcc ccaggccgaa gcatgagagc aaaccccctt tgcccccgac 1700 ggtgggagcc acagagcccg gcccagagac cgatgctgac gccgagcaca 1750 tctctttcca taaaatcatc gcgggcagcg tggcgctttt cctgtccgtg 1800 ctcgtcatcc tgctggttat ctacgtgtca tggaagcggt accctgcgag 1850 catgaagcag ctgcagcagc gctccctcat gcgaaggcac aggaaaaaga 1900 aaagacagtc cctaaagcaa atgactccca gcacccagga attttatgta 1950 gattataaac ccaccaacac ggagaccagc gagatgctgc tgaatgggac 2000 gggaccctgc acctataaca aatcgggctc cagggagtgt gaggtatgaa 2050 ccattgtgat aaaaagagct cttaaaagct gggaaataag tggtgcttta 2100

ttgaactctg gtgactatca agggaacgcg atgcccccc tccccttccc 2150 tctccctctc actttggtgg caagatcctt ccttgtccgt tttagtgcat 2200 tcataatact ggtcattttc ctctcataca taatcaaccc attgaaattt 2250 aaataccaca atcaatgtga agcttgaact ccggtttaat ataataccta 2300 ttgtataaga ccctttactg attccattaa tgtcgcattt gttttaagat 2350 aaaacttctt tcataggtaa aaaaaaaaa 2379

<210> 385

<211> 513

<212> PRT

<213> Homo sapiens

<400> 385

Met Gly Phe Asn Val Ile Arg Leu Leu Ser Gly Ser Ala Val Ala 1 5 10 15

Leu Val Ile Ala Pro Thr Val Leu Leu Thr Met Leu Ser Ser Ala 20 25 30

Glu Arg Gly Cys Pro Lys Gly Cys Arg Cys Glu Gly Lys Met Val 35 40 45

Tyr Cys Glu Ser Gln Lys Leu Gln Glu Ile Pro Ser Ser Ile Ser 50 55 60

Ala Gly Cys Leu Gly Leu Ser Leu Arg Tyr Asn Ser Leu Gln Lys 65 70 75

Leu Lys Tyr Asn Gln Phe Lys Gly Leu Asn Gln Leu Thr Trp Leu 80 85 90

Tyr Leu Asp His Asn His Ile Ser Asn Ile Asp Glu Asn Ala Phe 95 100 105

Asn Gly Ile Arg Arg Leu Lys Glu Leu Ile Leu Ser Ser Asn Arg 110 115 120

Ile Ser Tyr Phe Leu Asn Asn Thr Phe Arg Pro Val Thr Asn Leu 125 130 135

Arg Asn Leu Asp Leu Ser Tyr Asn Gln Leu His Ser Leu Gly Ser 140 145 150

Glu Gln Phe Arg Gly Leu Arg Lys Leu Leu Ser Leu His Leu Arg 155 160 165

Ser Asn Ser Leu Arg Thr Ile Pro Val Arg Ile Phe Gln Asp Cys 170 175 180

Arg Asn Leu Glu Leu Leu Asp Leu Gly Tyr Asn Arg Ile Arg Ser 185 190 195

Leu Ala Arg Asn Val Phe Ala Gly Met Ile Arg Leu Lys Glu Leu

				200					205					210
His	Leu	Glu	His	Asn 215	Gln	Phe	Ser	Lys	Leu 220	Asn	Leu	Ala	Leu	Phe 225
Pro	Arg	Leu	Val	Ser 230	Leu	Gln	Asn	Leu	Tyr 235	Leu	Gln	Trp	Asn	Lys 240
Ile	Ser	Val	Ile	Gly 245	Gln	Thr	Met	Ser	Trp 250	Thr	Trp	Ser	Ser	Leu 255
Gln	Arg	Leu	Asp	Leu 260	Ser	Gly	Asn	Glu	Ile 265	Glu	Ala	Phe	Ser	Gly 270
Pro	Ser	Val	Phe	Gln 275	Cys	Val	Pro	Asn	Leu 280	Gln	Arg	Leu	Asn	Leu 285
Asp	Ser	Asn	Lys	Leu 290	Thr	Phe	Ile	Gly	Gln 295	Glu	Ile	Leu	Asp	Ser 300
Trp	Ile	Ser	Leu	Asn 305	Asp	Ile	Ser	Leu	Ala 310	Gly	Asn	Ile	Trp	Glu 315
Cys	Ser	Arg	Asn	Ile 320	Cys	Ser	Leu	Val	Asn 325	Trp	Leu	Lys	Ser	Phe 330
Lys	Gly	Leu	Arg	Glu 335	Asn	Thr	Ile	Ile	Cys 340	Ala	Ser	Pro	Lys	Glu 345
Leu	Gln	Gly	Val	Asn 350	Val	Ile	Asp	Ala	Val 355	Lys	Asn	Tyr	Ser	Ile 360
Cys	Gly	Lys	Ser	Thr 365	Thr	Glu	Arg	Phe	Asp 370	Leu	Ala	Arg	Ala	Leu 375
Pro	Lys	Pro	Thr	Phe 380	Lys	Pro	Lys	Leu	Pro 385	Arg	Pro	Lys	His	Glu 390
Ser	Lys	Pro	Pro	Leu 395	Pro	Pro	Thr	Val	Gly 400	Ala	Thr	Glu	Pro	Gly 405
Pro	Glu	Thr	Asp	Ala 410	Asp	Ala	Glu	His	Ile 415	Ser	Phe	His	Lys	Ile 420
Ile	Ala	Gly	Ser	Val 425	Ala	Leu	Phe	Leu	Ser 430	Val	Leu	Val	Ile	Leu 435
Leu	Val	Ile	Tyr	Val 440	Ser	Trp	Lys	Arg	Tyr 445	Pro	Ala	Ser	Met	Lys 450
Gln	Leu	Gln	Gln	Arg 455	Ser	Leu	Met	Arg	Arg 460	His	Arg	Lys	Lys	Lys 465
Arg	Gln	Ser	Leu	Lys 470	Gln	Met	Thr	Pro	Ser 475	Thr	Gln	Glu	Phe	Tyr 480
Val	Asp	Tyr	Lys	Pro 485	Thr	Asn	Thr	Glu	Thr 490	Ser	Glu	Met	Leu	Leu 495

```
505
 Cys Glu Val
<210> 386
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 386
 ctgggatctg aacagtttcg gggc 24
<210> 387
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 387
ggtccccagg acatggtctg tccc 24
<210> 388
<211> 48
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-48
<223> Synthetic construct.
<400> 388
gctgagttta catttacggt ctaactccct gagaaccatc cctgtgcg 48
<210> 389
<211> 1449
<212> DNA
<213> Homo sapiens
<400> 389
agttctgaga aagaaggaaa taaacacagg caccaaacca ctatcctaag 50
ttgactgtcc tttaaatatg tcaagatcca gacttttcag tgtcacctca 100
gcgatctcaa cgatagggat cttgtgtttg ccgctattcc agttggtgct 150
ctcggaccta ccatgcgaag aagatgaaat gtgtgtaaat tataatgacc 200
```

Asn Gly Thr Gly Pro Cys Thr Tyr Asn Lys Ser Gly Ser Arg Glu

aacaccctaa tggctggtat atctggatcc tcctgctgct ggttttggtg 250 gcagctcttc tctgtggagc tgtggtcctc tgcctccagt gctggctgag 300 gagaccccga attgattctc acaggcgcac catggcagtt tttgctgttg 350 gagacttgga ctctatttat gggacagaag cagctgtgag tccaactgtt 400 ggaattcacc ttcaaactca aacccctgac ctatatcctg ttcctgctcc 450 atgttttggc cctttaggct ccccacctcc atatgaagaa attgtaaaaa 500 caacctgatt ttaggtgtgg attatcaatt taaagtatta acgacatctg 550 taattccaaa acatcaaatt taggaatagt tatttcagtt gttggaaatg 600 tccaqaqatc tattcatata qtctqaqqaa ggacaattcg acaaaagaat 650 ggatgttgga aaaaattttg gtcatggaga tgtttaaata gtaaagtagc 700 aggettttga tgtgtcactg ctgtatcata cttttatgct acacaaccaa 750 attaatgctt ctccactagt atccaaacag gcaacaatta ggtgctggaa 800 gtagtttcca tcacatttag gactccactg cagtatacag cacaccattt 850 tctqctttaa actctttcct agcatggggt ccataaaaat tattataatt 900 taacaatagc ccaagccgag aatccaacat gtccagaacc agaaccagaa 950 agatagtatt tgaatgaagg tgaggggaga gagtaggaaa aagaaaagtt 1000 tggagttgaa gggtaaagga taaatgaaga ggaaaaggaa aagattacaa 1050 gtctcagcaa aaacaagagg ttttatgccc caacctgaag aggaagaaat 1100 tgtagataga aggtgaagga gattgctgaa gatatagagc acatataatg 1150 ccaacacggg gagaaaagaa aatttcccct tttacagtaa tgaatgtggc 1200 ctccatagtc catagtgttt ctctggagcc tcagggcttg gcatttattg 1250 cagcatcatg ctaagaacct tcggcatagg tatctgttcc catgaggact 1300 gcagaagtag caatgagaca tcttcaagtg gcattttggc agtggccatc 1350 agcaggggga cagacaaaaa catccatcac agatgacata tgatcttcag 1400 ctgacaaatt tgttgaacaa aacaataaac atcaatagat atctaaaaa 1449

<sup>&</sup>lt;210> 390

<sup>&</sup>lt;211> 146

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 390

```
Ile Gly Ile Leu Cys Leu Pro Leu Phe Gln Leu Val Leu Ser Asp
 Leu Pro Cys Glu Glu Asp Glu Met Cys Val Asn Tyr Asn Asp Gln
 His Pro Asn Gly Trp Tyr Ile Trp Ile Leu Leu Leu Val Leu
 Val Ala Ala Leu Leu Cys Gly Ala Val Val Leu Cys Leu Gln Cys
 Trp Leu Arg Arg Pro Arg Ile Asp Ser His Arg Arg Thr Met Ala
 Val Phe Ala Val Gly Asp Leu Asp Ser Ile Tyr Gly Thr Glu Ala
 Ala Val Ser Pro Thr Val Gly Ile His Leu Gln Thr Gln Thr Pro
 Asp Leu Tyr Pro Val Pro Ala Pro Cys Phe Gly Pro Leu Gly Ser
 Pro Pro Pro Tyr Glu Glu Ile Val Lys Thr Thr
<210> 391
<211> 26
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-26
<223> Synthetic construct.
<400> 391
cttttcagtg tcacctcagc gatctc 26
<210> 392
<211> 23
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-23
<223> Synthetic construct.
<400> 392
ccaaaacatg gagcaggaac agg 23
<210> 393
<211> 47
<212> DNA
<213> Artificial
```

<220> <221> Artificial Sequence <222> 1-47 <223> Synthetic construct. <400> 393 ccagttggtg ctctcggacc taccatgcga agaagatgaa atgtgtg 47 <210> 394 <211> 2340 <212> DNA <213> Homo sapiens <400> 394 gagcggagta aaatctccac aagctgggaa caaacctcgt cccaactccc 50 acccaccggc gtttctccag ctcgatctgg aggctgcttc gccagtgtgg 100 gacgcagctg acgcccgctt attagctctc gctgcgtcgc cccggctcag 150 aagctccgtg gcggcggcga ccgtgacgag aagcccacgg ccagctcagt 200 tctcttctac tttgggagag agagaaagtc agatgcccct tttaaactcc 250 ctcttcaaaa ctcatctcct gggtgactga gttaatagag tggatacaac 300 cttgctgaag atgaagaata tacaatattg aggatatttt tttcttttt 350 ttttcaagtc ttgatttgtg gcttacctca agttaccatt tttcagtcaa 400 gtctgtttgt ttgcttcttc agaaatgttt tttacaatct caagaaaaaa 450 tatgtcccag aaattgagtt tactgttgct tgtatttgga ctcatttggg 500 gattgatgtt actgcactat acttttcaac aaccaagaca tcaaagcagt 550 gtcaagttac gtgagcaaat actagactta agcaaaagat atgttaaagc 600 tctagcagag gaaaataaga acacagtgga tgtcgagaac ggtgcttcta 650 tggcaggata tgcggatctg aaaagaacaa ttgctgtcct tctggatgac 700 attttgcaac gattggtgaa gctggagaac aaagttgact atattgttgt 750 gaatggctca qcaqccaaca ccaccaatgg tactagtggg aatttggtgc 800 cagtaaccac aaataaaaga acgaatgtct cgggcagtat cagatagcag 850 ttgaaaatca ccttgtgctg ctccatccac tgtggattat atcctatggc 900 agaaaagctt tataattgct ggcttaggac agagcaatac tttacaataa 950 aagctctaca cattttcaag gagtatgctg gattcatgga actctaattc 1000

tgtacataaa aattttaaag ttatttgttt gctttcaggc aagtctgttc 1050

aatgctgtac tatgtcctta aagagaattt ggtaacttgg ttgatgtggt 1100

aagcagatag gtgagttttg tataaatctt ttgtgtttga gatcaagctg 1150 aaatgaaaac actgaaaaac atggattcat ttctataaca catttattta 1200 agtatataac acgttttttg gacaagtgaa gaatgtttaa tcattctgtc 1250 atttqttctc aatagatgta actgttagac tacggctatt tgaaaaaatg 1300 tgcttattgt actatatttt gttattccaa ttatgagcag agaaaggaaa 1350 tataatgttg aaaataatgt tttgaaatca tgacccaaag aatgtattga 1400 tttgcactat ccttcagaat aactgaaggt taattattgt atatttttaa 1450 aaattacact tataagagta taatcttgaa atgggtagca gccactgtcc 1500 attacctatc gtaaacattg gggcaattta ataacagcat taaaatagtt 1550 qtaaactcta atcttatact tattqaaqaa taaaagatat ttttatgatg 1600 agagtaacaa taaagtattc atgatttttc acatacatga atgttcattt 1650 aaaagtttaa tootttgagt gtotatgota toaggaaago acattattto 1700 catatttggg ttaattttgc ttttattata ttggtctagg aggaagggac 1750 tttggagaat ggaactcttg aggactttag ccaggtgtat ataataaagg 1800 taagagtatc ctttatgaaa ttttgaattt gtataacaga tgcattagat 1900 attcatttta tataatggcc acttaaaata agaacattta aaatataaac 1950 tatgaagatt gactatcttt tcaggaaaaa agctgtatat agcacaggga 2000 accctaatct tgggtaattc tagtataaaa caaattatac ttttatttaa 2050 atttcccttg tagcaaatct aattgccaca tggtgcccta tatttcatag 2100 tatttattct ctatagtaac tgcttaagtg cagctagctt ctagatttag 2150 actatataga atttagatat tgtattgttc gtcattataa tatgctacca 2200 catgtagcaa taattacaat attttattaa aataaatatg tgaaatattg 2250 acctttatgt gaagaaatta attatatgcc attgccaggt 2340

```
<210> 395
```

<sup>&</sup>lt;211> 140

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 395

Met Phe Phe Thr Ile Ser Arg Lys Asn Met Ser Gln Lys Leu Ser 1 5 10 15

Leu Leu Leu Val Phe Gly Leu Ile Trp Gly Leu Met Leu Leu 20 25 30

His Tyr Thr Phe Gln Gln Pro Arg His Gln Ser Ser Val Lys Leu 35 40 45

Arg Glu Gln Ile Leu Asp Leu Ser Lys Arg Tyr Val Lys Ala Leu 50 55 60

Ala Glu Glu Asn Lys Asn Thr Val Asp Val Glu Asn Gly Ala Ser
65 70 75

Met Ala Gly Tyr Ala Asp Leu Lys Arg Thr Ile Ala Val Leu Leu 80 85 90

Asp Asp Ile Leu Gln Arg Leu Val Lys Leu Glu Asn Lys Val Asp 95 100 105

Tyr Ile Val Val Asn Gly Ser Ala Ala Asn Thr Thr Asn Gly Thr
110 115 120

Ser Gly Asn Leu Val Pro Val Thr Thr Asn Lys Arg Thr Asn Val 125 130 135

Ser Gly Ser Ile Arg 140

<210> 396

<211> 2639

<212> DNA

<213> Homo sapiens

<400> 396

cgcggccggg ccgccgggt gagcgtgccg aggcggctgt ggcgcaggct 50
tccagcccc accatgccgt ggcccctgct gctgctgtg gccgtgagtg 100
gggcccagac aacccggcca tgcttccccg ggtgccaatg cgaggtggag 150
accttcggcc ttttcgacag cttcagcctg actcgggtgg attgtagcgg 200
cctgggcccc cacatcatgc cggtgcccat ccctctggac acagcccact 250
tggacctgtc ctccaaccgg ctggagatgg tgaatgagtc ggtgttggcg 300
gggccgggct acacgacgtt ggctggcctg gatctcagcc acaacctgct 350
caccagcatc tcaccactg ccttctcccg ccttcgctac ctggagtcgc 400
ttgacctcag ccacaatggc ctgacagcc tgccagccga gagcttcacc 450
agctcacccc tgagcgacgt gaaccttagc cacaaccagc tccgggaggt 500
ctcagtgtct gccttcacga cgcacagtca gggccgggca ctacacgtgg 550
acctctccca caacctcatt caccgcctcg tgcccaccc cacgagggcc 600
ggcctgcctg cgcccaccat tcagagcctg aacctggcct ggaaccggct 650

ccatgccgtg cccaacctcc gagacttgcc cctgcgctac ctgagcctgg 700 atgggaaccc tctagctgtc attggtccgg gtgccttcgc ggggctggga 750 ggccttacac acctgtctct ggccagcctg cagaggctcc ctgagctggc 800 gcccagtggc ttccgtgagc taccgggcct gcaggtcctg gacctgtcgg 850 gcaaccccaa gcttaactgg gcaggagctg aggtgttttc aggcctgagc 900 tecetgeagg agetggaeet ttegggeaee aacetggtge eeetgeetga 950 ggcgctgctc ctccacctcc cggcactgca gagcgtcagc gtgggccagg 1000 atgtgcggtg ccggcgcctg gtgcgggagg gcacctaccc ccggaggcct 1050 ggctccagcc ccaaggtgcc cctgcactgc gtagacaccc gggaatctgc 1100 tgccaggggc cccaccatct tgtgacaaat ggtgtggccc agggccacat 1150 aacagactgc tgtcctgggc tgcctcaggt cccgagtaac ttatgttcaa 1200 tgtgccaaca ccagtgggga gcccgcaggc ctatgtggca gcgtcaccac 1250 aggagttgtg ggcctaggag aggctttgga cctgggagcc acacctagga 1300 gcaaagtctc acccctttgt ctacgttgct tccccaaacc atgagcagag 1350 ggacttcgat gccaaaccag actcgggtcc cctcctgctt cccttcccca 1400 cttatccccc aagtgccttc cctcatgcct gggccggcct gacccgcaat 1450 gggcagaggg tgggtgggac cccctgctgc agggcagagt tcaggtccac 1500 tgggctgagt gtccccttgg gcccatggcc cagtcactca ggggcgagtt 1550 tcttttctaa catagccctt tctttgccat gaggccatga ggcccgcttc 1600 atccttttct atttccctag aaccttaatg gtagaaggaa ttgcaaagaa 1650 tcaagtccac ccttctcatg tgacagatgg ggaaactgag gccttgagaa 1700 ggaaaaaggc taatctaagt teetgeggge agtggeatga etggageaca 1750 gcctcctgcc tcccagcccg gacccaatgc actttcttgt ctcctctaat 1800 aagccccacc ctccccgcct gggctcccct tgctgccctt gcctgttccc 1850 cattagcaca ggagtagcag cagcaggaca ggcaagagcc tcacaagtgg 1900 gactctgggc ctctgaccag ctgtgcggca tgggctaagt cactctgccc 1950 ttcggagcct ctggaagctt agggcacatt ggttccagcc tagccagttt 2000 ctcaccctgg gttggggtcc cccagcatcc agactggaaa cctacccatt 2050 ttcccctgag catcctctag atgctgcccc aaggagttgc tgcagttctg 2100

<210> 397

<211> 353

<212> PRT

<213> Homo sapiens

<400> 397

Met Pro Trp Pro Leu Leu Leu Leu Leu Ala Val Ser Gly Ala Gln
1 5 10 15

Thr Thr Arg Pro Cys Phe Pro Gly Cys Gln Cys Glu Val Glu Thr 20 25 30

Phe Gly Leu Phe Asp Ser Phe Ser Leu Thr Arg Val Asp Cys Ser 35 40 45

Gly Leu Gly Pro His Ile Met Pro Val Pro Ile Pro Leu Asp Thr 50 55 60

Ala His Leu Asp Leu Ser Ser Asn Arg Leu Glu Met Val Asn Glu 65 70 75

Ser Val Leu Ala Gly Pro Gly Tyr Thr Thr Leu Ala Gly Leu Asp 80 85 90

Leu Ser His Asn Leu Leu Thr Ser Ile Ser Pro Thr Ala Phe Ser 95 100 105

Arg Leu Arg Tyr Leu Glu Ser Leu Asp Leu Ser His Asn Gly Leu 110 115 120

Thr Ala Leu Pro Ala Glu Ser Phe Thr Ser Ser Pro Leu Ser Asp 125 130 135

Val Asn Leu Ser His Asn Gln Leu Arg Glu Val Ser Val Ser Ala 140 145 150

```
Phe Thr His Ser Gln Gly Arg Ala Leu His Val Asp Leu Ser
 His Asn Leu Ile His Arg Leu Val Pro His Pro Thr Arg Ala Gly
                 170
                                     175
 Leu Pro Ala Pro Thr Ile Gln Ser Leu Asn Leu Ala Trp Asn Arg
 Leu His Ala Val Pro Asn Leu Arg Asp Leu Pro Leu Arg Tyr Leu
 Ser Leu Asp Gly Asn Pro Leu Ala Val Ile Gly Pro Gly Ala Phe
 Ala Gly Leu Gly Gly Leu Thr His Leu Ser Leu Ala Ser Leu Gln
 Arg Leu Pro Glu Leu Ala Pro Ser Gly Phe Arg Glu Leu Pro Gly
                                     250
 Leu Gln Val Leu Asp Leu Ser Gly Asn Pro Lys Leu Asn Trp Ala
 Gly Ala Glu Val Phe Ser Gly Leu Ser Ser Leu Gln Glu Leu Asp
                 275
                                                          285
 Leu Ser Gly Thr Asn Leu Val Pro Leu Pro Glu Ala Leu Leu Leu
                 290
                                     295
 His Leu Pro Ala Leu Gln Ser Val Ser Val Gly Gln Asp Val Arg
                 305
                                     310
                                                          315
 Cys Arg Arg Leu Val Arg Glu Gly Thr Tyr Pro Arg Arg Pro Gly
                 320
 Ser Ser Pro Lys Val Pro Leu His Cys Val Asp Thr Arg Glu Ser
                 335
                                     340
                                                          345
Ala Ala Arg Gly Pro Thr Ile Leu
                 350
<210> 398
<211> 23
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-23
<223> Synthetic construct.
<400> 398
```

<211> 23 <212> DNA

<210> 399

ccctgccagc cgagagette acc 23

```
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-23
<223> Synthetic construct.
<400> 399
ggttggtgcc cgaaaggtcc agc 23
<210> 400
<211> 44
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-44
<223> Synthetic construct.
<400> 400
caaccccaag cttaactggg caggagctga ggtgttttca ggcc 44
<210> 401
<211> 1571
<212> DNA
<213> Homo sapiens
<400> 401
gatggcgcag ccacagette tgtgagatte gatttetece cagtteecet 50
gtgggtctga ggggaccaga agggtgagct acgttggctt tctggaaggg 100
gaggetatat gegteaatte eccaaaacaa gttttgacat tteecetgaa 150
atgtcattct ctatctattc actgcaagtg cctgctgttc caggccttac 200
ctgctgggca ctaacggcgg agccaggatg gggacagaat aaaggagcca 250
cgacctgtgc caccaactcg cactcagact ctgaactcag acctgaaatc 300
ttctcttcac gggaggcttg gcagtttttc ttactcctgt ggtctccaga 350
tttcaggcct aagatgaaag cctctagtct tgccttcagc cttctctctg 400
ctgcgtttta tctcctatgg actccttcca ctggactgaa gacactcaat 450
ttgggaagct gtgtgatcgc cacaaacctt caggaaatac gaaatggatt 500
ttctgagata cggggcagtg tgcaagccaa agatggaaac attgacatca 550
gaatcttaag gaggactgag tctttgcaag acacaaagcc tgcgaatcga 600
tgctgcctcc tgcgccattt gctaagactc tatctggaca gggtatttaa 650
aaactaccag acccctgacc attatactct ccggaagatc agcagcctcg 700
ccaattcctt tcttaccatc aagaaggacc tccggctctc tcatgcccac 750
```

atgacatgcc attgtgggga ggaagcaatg aagaaataca gccagattct 800 gagtcacttt gaaaagctgg aacctcaggc agcagttgtg aaggctttgg 850 gggaactaga cattcttctg caatggatgg aggagacaga ataggaggaa 900 agtgatgctg ctgctaagaa tattcgaggt caagagctcc agtcttcaat 950 acctgcagag gaggcatgac cccaaaccac catctcttta ctgtactagt 1000 cttgtgctgg tcacagtgta tcttatttat gcattacttg cttccttgca 1050 tgattgtctt tatgcatccc caatcttaat tgagaccata cttgtataag 1100 atttttgtaa tatctttctg ctattggata tatttattag ttaatatatt 1150 tatttatttt ttgctattta atqtatttat ttttttactt ggacatgaaa 1200 ctttaaaaaa attcacagat tatatttata acctgactag agcaggtgat 1250 gtatttttat acagtaaaaa aaaaaaacct tgtaaattct agaagagtgg 1300 ctaggggggt tattcatttg tattcaacta aggacatatt tactcatgct 1350 gatgctctgt gagatatttg aaattgaacc aatgactact taggatgggt 1400 tgtggaataa gttttgatgt ggaattgcac atctacctta caattactga 1450 ccatccccag tagactcccc agtcccataa ttgtgtatct tccagccagg 1500 aatcctacac ggccagcatg tatttctaca aataaagttt tctttgcata 1550 ccaaaaaaaa aaaaaaaaa a 1571

<210> 402

<211> 261

<212> PRT

<213> Homo sapiens

<400> 402

Met Arg Gln Phe Pro Lys Thr Ser Phe Asp Ile Ser Pro Glu Met
1 5 10 15

Ser Phe Ser Ile Tyr Ser Leu Gln Val Pro Ala Val Pro Gly Leu 20 25 30

Thr Cys Trp Ala Leu Thr Ala Glu Pro Gly Trp Gly Gln Asn Lys 35 40 45

Gly Ala Thr Thr Cys Ala Thr Asn Ser His Ser Asp Ser Glu Leu
50 55 60

Arg Pro Glu Ile Phe Ser Ser Arg Glu Ala Trp Gln Phe Phe Leu 65 70 75

Leu Leu Trp Ser Pro Asp Phe Arg Pro Lys Met Lys Ala Ser Ser 80 85 90

```
Leu Ala Phe Ser Leu Leu Ser Ala Ala Phe Tyr Leu Leu Trp Thr
Pro Ser Thr Gly Leu Lys Thr Leu Asn Leu Gly Ser Cys Val Ile
Ala Thr Asn Leu Gln Glu Ile Arg Asn Gly Phe Ser Glu Ile Arg
Gly Ser Val Gln Ala Lys Asp Gly Asn Ile Asp Ile Arg Ile Leu
Arg Arg Thr Glu Ser Leu Gln Asp Thr Lys Pro Ala Asn Arg Cys
Cys Leu Leu Arg His Leu Leu Arg Leu Tyr Leu Asp Arg Val Phe
                 170
Lys Asn Tyr Gln Thr Pro Asp His Tyr Thr Leu Arg Lys Ile Ser
                 185
Ser Leu Ala Asn Ser Phe Leu Thr Ile Lys Lys Asp Leu Arg Leu
                 200
Ser His Ala His Met Thr Cys His Cys Gly Glu Glu Ala Met Lys
                 215
Lys Tyr Ser Gln Ile Leu Ser His Phe Glu Lys Leu Glu Pro Gln
                 230
Ala Ala Val Val Lys Ala Leu Gly Glu Leu Asp Ile Leu Leu Gln
                 245
Trp Met Glu Glu Thr Glu
                 260
<210> 403
<211> 28
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-28
<223> Synthetic construct.
<400> 403
ctcctgtggt ctccagattt caggccta 28
<210> 404
<211> 26
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-26
```

<223> Synthetic construct.

```
<400> 404
agtcctcctt aagattctga tgtcaa 26
<210> 405
<211> 998
<212> DNA
<213> Homo sapiens
<400> 405
ccgttatcgt cttgcgctac tgctgaatgt ccgtcccgga ggaggaggag 50
aggettttge egetgaceca gagatggeec egagegagea aatteetaet 100
gtccggctgc gcggctaccg tggccgagct agcaaccttt cccctggatc 150
tcacaaaaac tcgactccaa atgcaaggag aagcagctct tgctcggttg 200
ggagacggtg caagagaatc tgcccctat aggggaatgg tgcgcacagc 250
 cctagggatc attgaagagg aaggctttct aaagctttgg caaggagtga 300
 caccegecat ttacagacae gtagtgtatt etggaggteg aatggteaca 350
 tatgaacatc tccgagaggt tgtgtttggc aaaagtgaag atgagcatta 400
 tcccctttgg aaatcagtca ttggagggat gatggctggt gttattggcc 450
 agtttttagc caatccaact gacctagtga aggttcagat gcaaatggaa 500
 ggaaaaagga aactggaagg aaaaccattg cgatttcgtg gtgtacatca 550
 tgcatttgca aaaatcttag ctgaaggagg aatacgaggg ctttgggcag 600
 gctgggtacc caatatacaa agagcagcac tggtgaatat gggagattta 650
 accacttatq atacagtgaa acactacttg gtattgaata caccacttga 700
 ggacaatatc atgactcacg gtttatcaag tttatgttct ggactggtag 750
 cttctattct gggaacacca gccgatgtca tcaaaagcag aataatgaat 800
 caaccacgag ataaacaagg aaggggactt ttgtataaat catcgactga 850
 ctgcttgatt caggctgttc aaggtgaagg attcatgagt ctatataaag 900
 gctttttacc atcttggctg agaatgaccc cttggtcaat ggtgttctgg 950
 cttacttatg aaaaaatcag agagatgagt ggagtcagtc cattttaa 998
<210> 406
<211> 323
<212> PRT
<213> Homo sapiens
<400> 406
 Met Ser Val Pro Glu Glu Glu Glu Arg Leu Pro Leu Thr Gln
```

10

Arg Trp Pro Arg Ala Ser Lys Phe Leu Leu Ser Gly Cys Ala Ala Thr Val Ala Glu Leu Ala Thr Phe Pro Leu Asp Leu Thr Lys Thr Arg Leu Gln Met Gln Gly Glu Ala Ala Leu Ala Arg Leu Gly Asp Gly Ala Arg Glu Ser Ala Pro Tyr Arg Gly Met Val Arg Thr Ala Leu Gly Ile Ile Glu Glu Glu Gly Phe Leu Lys Leu Trp Gln Gly Val Thr Pro Ala Ile Tyr Arg His Val Val Tyr Ser Gly Gly Arg Met Val Thr Tyr Glu His Leu Arg Glu Val Val Phe Gly Lys Ser 110 Glu Asp Glu His Tyr Pro Leu Trp Lys Ser Val Ile Gly Gly Met Met Ala Gly Val Ile Gly Gln Phe Leu Ala Asn Pro Thr Asp Leu Val Lys Val Gln Met Gln Met Glu Gly Lys Arg Lys Leu Glu Gly Lys Pro Leu Arg Phe Arg Gly Val His His Ala Phe Ala Lys Ile Leu Ala Glu Gly Gly Ile Arg Gly Leu Trp Ala Gly Trp Val Pro Asn Ile Gln Arg Ala Ala Leu Val Asn Met Gly Asp Leu Thr Thr Tyr Asp Thr Val Lys His Tyr Leu Val Leu Asn Thr Pro Leu Glu Asp Asn Ile Met Thr His Gly Leu Ser Ser Leu Cys Ser Gly Leu 230 Val Ala Ser Ile Leu Gly Thr Pro Ala Asp Val Ile Lys Ser Arg Ile Met Asn Gln Pro Arg Asp Lys Gln Gly Arg Gly Leu Leu Tyr 260 Lys Ser Ser Thr Asp Cys Leu Ile Gln Ala Val Gln Gly Glu Gly Phe Met Ser Leu Tyr Lys Gly Phe Leu Pro Ser Trp Leu Arg Met Thr Pro Trp Ser Met Val Phe Trp Leu Thr Tyr Glu Lys Ile Arg Glu Met Ser Gly Val Ser Pro Phe 320

<221> Artificial Sequence <222> 1-31

<223> Synthetic construct.

<400> 407 cgcggatccc gttatcgtct tgcgctactg c 31

<210> 408 <211> 34 <212> DNA

. - 1

Ø:

DÇ.

igari.

Ŋij. ß

gast.

M;

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-34

<223> Synthetic construct.

gcggaattct taaaatggac tgactccact catc 34 <210> 409

<400> 408

<211> 1487 <212> DNA

<213> Homo sapiens

<400> 409

cggacgcgtg ggcgcgggac gccggcaggg ttgtggcgca gcagtctcct 50 tcctgcgcgc gcgcctgaag tcggcgtggg cgtttgagga agctgggata 100 cagcatttaa tgaaaaattt atgcttaaga agtaaaaatg gcaggcttcc 150 tagataattt tcgttggcca gaatgtgaat gtattgactg gagtgagaga 200 agaaatgctg tggcatctgt tgtcgcaggt atattgtttt ttacaggctg 250 gtggataatg attgatgcag ctgtggtgta tcctaagcca gaacagttga 300 accatgcctt tcacacatgt ggtgtatttt ccacattggc tttcttcatg 350 ataaatgctg tatccaatgc tcaggtgaga ggtgatagct atgaaagcgg 400 ctgtttagga agaacaggtg ctcgagtttg gcttttcatt ggtttcatgt 450 tgatgtttgg gtcacttatt gcttccatgt ggattctttt tggtgcatat 500 gttacccaaa atactgatgt ttatccggga ctagctgtgt tttttcaaaa 550

tgcacttata ttttttagca ctctgatcta caaatttgga agaaccgaag 600 agctatggac ctgagatcac ttcttaagtc acattttcct tttgttatat 650 tctqtttqta qataqqtttt ttatctctca qtacacattq ccaaatggag 700 tagattgtac attaaatgtt ttgtttcttt acatttttat gttctgagtt 750 ttgaaatagt tttatgaaat ttctttattt ttcattgcat agactgttaa 800 tatgtatata atacaagact atatgaattg gataatgagt atcagttttt 850 tattcctgag atttagaact tgatctactc cctgagccag ggttacatca 900 tcttgtcatt ttagaagtaa ccactcttgt ctctctggct gggcacggtg 950 gctcatgcct gtaatcccag cactttggga ggccgaggcg ggccgattgc 1000 ttgaggtcaa gtgtttgaga ccagcctggc caacatggcg aaaccccatc 1050 tactaaaaat acaaaaatta gccaggcatg gtggtgggtg cctgtaatcc 1100 cagctacctg ggaggctgag gcaggagaat cgcttgaacc cggggggcag 1150 aggttgcagt gagctgagtt tgcgccactg cactctagcc tgggggagaa 1200 agtgaaactc cctctcaaaa aaaagaccac tctcagtatc tctgatttct 1250 gaagatgtac aaaaaaatat agcttcatat atctggaatg agcactgagc 1300 cataaaaggt tttcagcaag ttgtaactta ttttggccta aaaatgaggt 1350 ttttttqqta aaqaaaaaat atttgttctt atgtattgaa gaagtgtact 1400 tttatataat gatttttaa atgcccaaag gactagtttg aaagcttctt 1450 ttaaaaaqaa ttcctctaat atgactttat gtgagaa 1487

<210> 410

<211> 158

<212> PRT

<213> Homo sapiens

<400> 410

Met Ala Gly Phe Leu Asp Asn Phe Arg Trp Pro Glu Cys Glu Cys
1 5 10 15

Ile Asp Trp Ser Glu Arg Arg Asn Ala Val Ala Ser Val Val Ala 20 25 30

Gly Ile Leu Phe Phe Thr Gly Trp Trp Ile Met Ile Asp Ala Ala

Val Val Tyr Pro Lys Pro Glu Gln Leu Asn His Ala Phe His Thr 50 55 60

Cys Gly Val Phe Ser Thr Leu Ala Phe Phe Met Ile Asn Ala Val 65 70 75

<210> 414

```
Ser Asn Ala Gln Val Arg Gly Asp Ser Tyr Glu Ser Gly Cys Leu
 Gly Arg Thr Gly Ala Arg Val Trp Leu Phe Ile Gly Phe Met Leu
 Met Phe Gly Ser Leu Ile Ala Ser Met Trp Ile Leu Phe Gly Ala
 Tyr Val Thr Gln Asn Thr Asp Val Tyr Pro Gly Leu Ala Val Phe
 Phe Gln Asn Ala Leu Ile Phe Phe Ser Thr Leu Ile Tyr Lys Phe
                 140
Gly Arg Thr Glu Glu Leu Trp Thr
                 155
<210> 411
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-20
<223> Synthetic construct.
<400> 411
gtttgaggaa gctgggatac 20
<210> 412
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-20
<223> Synthetic construct.
<400> 412
 ccaaactcga gcacctgttc 20
<210> 413
<211> 40
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-40
<223> Synthetic construct.
<400> 413
 atggcaggct tcctagataa ttttcgttgg ccagaatgtg 40
```

<211> 1337 <212> DNA <213> Homo sapiens

<400> 414 gttgatggca aacttcctca aaggagggc agagcctgcg cagggcagga 50 gcagctggcc cactggcggc ccgcaacact ccgtctcacc ctctgggccc 100 actgcatcta gaggagggcc gtctgtgagg ccactacccc tccagcaact 150 gggaggtggg actgtcagaa gctggcccag ggtggtggtc agctgggtca 200 gggacctacg gcacctgctg gaccacctcg ccttctccat cgaagcaggg 250 aagtgggage ctcgageeet egggtggaag etgaeeeeaa geeaeeette 300 acctggacag gatgagagtg tcaggtgtgc ttcgcctcct ggccctcatc 350 tttgccatag tcacgacatg gatgtttatt cgaagctaca tgagcttcag 400 catgaaaacc atccgtctgc cacgctggct ggcagcctcg cccaccaagg 450 agatccaggt taaaaagtac aagtgtggcc tcatcaagcc ctgcccagcc 500 aactactttg cgtttaaaat ctgcagtggg gccgccaacg tcgtgggccc 550 tactatgtgc tttgaagacc gcatgatcat gagtcctgtg aaaaacaatg 600 tgggcagagg cctaaacatc gccctggtga atggaaccac gggagctgtg 650 ctgggacaga aggcatttga catgtactct ggagatgtta tgcacctagt 700 gaaattcctt aaagaaattc cggggggtgc actggtgctg gtggcctcct 750 acgacgatcc agggaccaaa atgaacgatg aaagcaggaa actcttctct 800 gacttgggga gttcctacgc aaaacaactg ggcttccggg acagctgggt 850 cttcatagga gccaaagacc tcaggggtaa aagccccttt gagcagttct 900 taaagaacag cccagacaca aacaaatacg agggatggcc agagctgctg 950 gagatggagg gctgcatgcc cccgaagcca ttttagggtg gctgtggctc 1000 ttcctcagcc aggggcctga agaagctcct gcctgactta ggagtcagag 1050 cccggcaggg gctgaggagg aggagcaggg ggtgctgcgt ggaaggtgct 1100 gcaggtcctt gcacgctgtg tcgcgcctct cctcctcgga aacagaaccc 1150 tcccacagca catcctaccc ggaagaccag cctcagaggg tccttctgga 1200 accagetgte tgtggagaga atggggtget ttegteaggg actgetgaeg 1250 gctggtcctg aggaaggaca aactgcccag acttgagccc aattaaattt 1300 tatttttgct ggttttgaaa aaaaaaaaa aaaaaaa 1337

<220>

<221> Artificial Sequence

```
<210> 415
<211> 224
<212> PRT
<213> Homo sapiens
<400> 415
Met Arg Val Ser Gly Val Leu Arg Leu Leu Ala Leu Ile Phe Ala
 Ile Val Thr Trp Met Phe Ile Arg Ser Tyr Met Ser Phe Ser
 Met Lys Thr Ile Arg Leu Pro Arg Trp Leu Ala Ala Ser Pro Thr
 Lys Glu Ile Gln Val Lys Lys Tyr Lys Cys Gly Leu Ile Lys Pro
 Cys Pro Ala Asn Tyr Phe Ala Phe Lys Ile Cys Ser Gly Ala Ala
 Asn Val Val Gly Pro Thr Met Cys Phe Glu Asp Arg Met Ile Met
 Ser Pro Val Lys Asn Asn Val Gly Arg Gly Leu Asn Ile Ala Leu
 Val Asn Gly Thr Thr Gly Ala Val Leu Gly Gln Lys Ala Phe Asp
 Met Tyr Ser Gly Asp Val Met His Leu Val Lys Phe Leu Lys Glu
 Ile Pro Gly Gly Ala Leu Val Leu Val Ala Ser Tyr Asp Asp Pro
 Gly Thr Lys Met Asn Asp Glu Ser Arg Lys Leu Phe Ser Asp Leu
 Gly Ser Ser Tyr Ala Lys Gln Leu Gly Phe Arg Asp Ser Trp Val
                 170
 Phe Ile Gly Ala Lys Asp Leu Arg Gly Lys Ser Pro Phe Glu Gln
                 185
 Phe Leu Lys Asn Ser Pro Asp Thr Asn Lys Tyr Glu Gly Trp Pro
 Glu Leu Leu Glu Met Glu Gly Cys Met Pro Pro Lys Pro Phe
                 215
<210> 416
<211> 21
<212> DNA
<213> Artificial
```

```
<222> 1-21
<223> Synthetic construct.
<400> 416
 gccatagtca cgacatggat g 21
<210> 417
<211> 18
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.
<400> 417
 ggatggccag agctgctg 18
<210> 418
<211> 26
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-26
<223> Synthetic construct.
<400> 418
 aaagtacaag tgtggcctca tcaagc 26
<210> 419
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 419
 tctgactcct aagtcaggca ggag 24
<210> 420
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 420
 attctctcca cagacagctg gttc 24
```

```
<210> 421
<211> 46
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-46
<223> Synthetic construct.
<400> 421
 gtacaagtgt ggcctcatca agccctgccc agccaactac tttgcg 46
<210> 422
<211> 1701
<212> DNA
<213> Homo sapiens
<220>
<221> unsure
<222> 1528
<223> unknown base
<400> 422
gagactgcag agggagataa agagagagg caaagaggca gcaagagatt 50
 tgtcctgggg atccagaaac ccatgatacc ctactgaaca ccgaatcccc 100
tggaagccca cagagacaga gacagcaaga gaagcagaga taaatacact 150
cacgccagga gctcgctcgc tctctctct tctctctcac tcctccctcc 200
ctctctctct gcctgtccta gtcctctagt cctcaaattc ccagtcccct 250
gcaccccttc ctgggacact atgttgttct ccgccctcct gctggaggtg 300
atttggatcc tggctgcaga tgggggtcaa cactggacgt atgagggccc 350
acatggtcag gaccattggc cagcctctta ccctgagtgt ggaaacaatg 400
cccagtcgcc catcgatatt cagacagaca gtgtgacatt tgaccctgat 450
ttgcctgctc tgcagcccca cggatatgac cagcctggca ccgagccttt 500
ggacctgcac aacaatggcc acacagtgca actctctctg ccctctaccc 550
tgtatctggg tggacttccc cgaaaatatg tagctgccca gctccacctg 600
cactggggtc agaaaggatc cccagggggg tcagaacacc agatcaacag 650
tgaagccaca tttgcagagc tccacattgt acattatgac tctgattcct 700
atgacagett gagtgagget getgagagge etcagggeet ggetgteetg 750
ggcatcctaa ttgaggtggg tgagactaag aatatagctt atgaacacat 800
tctgagtcac ttgcatgaag tcaggcataa agatcagaag acctcagtgc 850
```

ctcccttcaa cctaagagag ctgctcccca aacagctggg gcagtacttc 900 cgctacaatg gctcgctcac aactccccct tgctaccaga gtgtgctctg 950 gacagttttt tatagaaggt cccagatttc aatggaacag ctggaaaagc 1000 ttcaggggac attgttctcc acagaagagg agccctctaa gcttctggta 1050 cagaactacc gagccettca geeteteaat cagegeatgg tetttgette 1100 tttcatccaa gcaggatcct cgtataccac aggtgaaatg ctgagtctag 1150 gtgtaggaat cttggttggc tgtctctgcc ttctcctggc tgtttatttc 1200 attgctagaa agattcggaa gaagaggctg gaaaaccgaa agagtgtggt 1250 cttcacctca gcacaagcca cgactgaggc ataaattcct tctcagatac 1300 catggatgtg gatgacttcc cttcatgcct atcaggaagc ctctaaaatg 1350 gggtgtagga tctggccaga aacactgtag gagtagtaag cagatgtcct 1400 ccttcccctg gacatctctt agagaggaat ggacccaggc tgtcattcca 1450 ggaagaactg cagagccttc agcctctcca aacatgtagg aggaaatgag 1500 gaaatcgctg tgttgttaat gcagaganca aactctgttt agttgcaggg 1550 gaagtttggg atatacccca aagtcctcta cccctcact tttatggccc 1600 tttccctaga tatactgcgg gatctctcct taggataaag agttgctgtt 1650 gaagttgtat atttttgatc aatatatttg gaaattaaag tttctgactt 1700 t 1701

<210> 423

<211> 337

<212> PRT

<213> Homo sapiens

<400> 423

Met Leu Phe Ser Ala Leu Leu Leu Glu Val Ile Trp Ile Leu Ala 1 5 10 15

Ala Asp Gly Gln His Trp Thr Tyr Glu Gly Pro His Gly Gln 20 25 30

Asp His Trp Pro Ala Ser Tyr Pro Glu Cys Gly Asn Asn Ala Gln 35 40 45

Ser Pro Ile Asp Ile Gln Thr Asp Ser Val Thr Phe Asp Pro Asp 50 55 60

Leu Pro Ala Leu Gln Pro His Gly Tyr Asp Gln Pro Gly Thr Glu
65 70 75

Pro Leu Asp Leu His Asn Asn Gly His Thr Val Gln Leu Ser Leu



	80		85			90
Pro Ser Thr Le	u Tyr Leu 95	Gly Gly	Leu Pro 100	Arg Lys	Tyr Val	Ala 105
Ala Gln Leu Hi	s Leu His 110	Trp Gly	Gln Lys 115	Gly Ser	Pro Gly	Gly 120
Ser Glu His Gl	n Ile Asn 125	Ser Glu	Ala Thr 130	Phe Ala	Glu Leu	His 135
Ile Val His Ty	r Asp Ser 140	Asp Ser	Tyr Asp 145	Ser Leu	Ser Glu	Ala 150
Ala Glu Arg Pr	o Gln Gly 155	Leu Ala	Val Leu 160	Gly Ile	Leu Ile	Glu 165
Val Gly Glu Th	r Lys Asn 170	Ile Ala	Tyr Glu 175	His Ile	Leu Ser	His 180
Leu His Glu Va	l Arg His 185	Lys Asp	Gln Lys 190	Thr Ser	Val Pro	Pro 195
Phe Asn Leu Ar	g Glu Leu 200	Leu Pro	Lys Gln 205	Leu Gly	Gln Tyr	Phe 210
Arg Tyr Asn Gl	y Ser Leu 215	Thr Thr	Pro Pro 220	Cys Tyr	Gln Ser	Val 225
Leu Trp Thr Va	1 Phe Tyr 230	Arg Arg	Ser Gln 235	Ile Ser	Met Glu	Gln 240
Leu Glu Lys Le	u Gln Gly 245	Thr Leu	Phe Ser 250	Thr Glu	Glu Glu	Pro 255
Ser Lys Leu Le	u Val Gln 260	Asn Tyr	Arg Ala 265	Leu Gln	Pro Leu	Asn 270
Gln Arg Met Va	l Phe Ala 275	Ser Phe	Ile Gln 280	Ala Gly	Ser Ser	Tyr 285
Thr Thr Gly Gl	u Met Leu 290	Ser Leu	Gly Val 295	Gly Ile	Leu Val	Gly 300
Cys Leu Cys Le	u Leu Leu 305	Ala Val	Tyr Phe 310	Ile Ala	Arg Lys	Ile 315
Arg Lys Lys Ar	g Leu Glu 320	Asn Arg	Lys Ser 325	Val Val	Phe Thr	Ser 330
Ala Gln Ala Th	r Thr Glu 335	Ala				

<210> 424 <211> 18 <212> DNA <213> Artificial

```
<220>
 <221> Artificial Sequence
 <222> 1-18
 <223> Synthetic construct.
 <400> 424
 gtaaagtcgc tggccagc 18
<210> 425
<211> 18
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.
<400> 425
 cccgatctgc ctgctgta 18
<210> 426
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 426
 ctgcactgta tggccattat tgtg 24
<210> 427
<211> 45
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-45
<223> Synthetic construct.
<400> 427
cagaaaccca tgatacccta ctgaacaccg aatcccctgg aagcc 45
<210> 428
<211> 1073
<212> DNA
<213> Homo sapiens
<400> 428
aatttttcac cagagtaaac ttgagaaacc aactggacct tgagtattgt 50
acattttgcc tcgtggaccc aaaggtagca atctgaaaca tgaggagtac 100
gattctactg ttttgtcttc taggatcaac tcggtcatta ccacagctca 150
```

aacctgcttt gggactccct cccacaaaac tggctccgga tcagggaaca 200 ctaccaaacc aacagcagtc aaatcaggtc tttccttctt taagtctgat 250 accattaaca cagatgctca cactggggcc agatctgcat ctgttaaatc 300 ctgctgcagg aatgacacct ggtacccaga cccacccatt gaccctggga 350 gggttgaatg tacaacagca actgcaccca catgtgttac caatttttgt 400 cacacaactt ggagcccagg gcactatcct aagctcagag gaattgccac 450 aaatcttcac gagcctcatc atccattcct tgttcccggg aggcatcctg 500 cccaccagtc aggcagggc taatccagat gtccaggatg gaagccttcc 550 agcaggagga gcaggtgtaa atcctgccac ccagggaacc ccagcaggcc 600 gcctcccaac tcccagtggc acagatgacg actttgcagt gaccaccct 650 gcaggcatcc aaaggagcac acatgccatc gaggaagcca ccacagaatc 700 agcaaatgga attcagtaag ctgtttcaaa ttttttcaac taagctgcct 750 cgaatttggt gatacatgtg aatctttatc attgattata ttatggaata 800 gattgagaca cattggatag tcttagaaga aattaattct taatttacct 850 gaaaatattc ttgaaatttc agaaaatatg ttctatgtag agaatcccaa 900 cttttaaaaa caataattca atggataaat ctgtctttga aatataacat 950 tatgctgcct ggatgatatg catattaaaa catatttgga aaactggaaa 1000 aaaaaaaaa aaaaaaaaa aaa 1073

<210> 429

<211> 209

<212> PRT

<213> Homo sapiens

<400> 429

Met Arg Ser Thr Ile Leu Leu Phe Cys Leu Leu Gly Ser Thr Arg
1 5 10 15

Ser Leu Pro Gln Leu Lys Pro Ala Leu Gly Leu Pro Pro Thr Lys
20 25 30

Leu Ala Pro Asp Gln Gly Thr Leu Pro Asn Gln Gln Gln Ser Asn
35
40
45

Gln Val Phe Pro Ser Leu Ser Leu Ile Pro Leu Thr Gln Met Leu
50 55 60

Thr Leu Gly Pro Asp Leu His Leu Leu Asn Pro Ala Ala Gly Met
65 70 75

```
The Pro Gly The Sol The Sol The His Pro Leu The Sol Sol Sol Leu Asn 90

Val Gln Gln Gln Leu His Pro His Val Leu Pro Ile Phe Val The 105

Gln Leu Gly Ala Gln 110 Gly The Ile Leu Ser 115 Ser Glu Glu Leu Pro 120

Gln Ile Phe The Ser Leu Ile Ile His Ser Leu Phe Pro Gly 135

Ile Leu Pro The Ser Gln Ala Gly Ala Gly Ala Gly Ala Asn Pro Asp Val Gln Asp 150

Gly Ser Leu Pro Ala Gly Arg Leu Pro The Pro Ala Gly Ala Gly Ile Gln Asp 165

Gly The Pro Ala Val The The Pro Ala Gly Ile Gln Asp 195

Ala Ile Glu Glu Ala The The Glu Ser Ala Asn Gly Ile Gln ```

<210> 430 <211> 1257 <212> DNA

<213> Homo Sapien

<400> 430
ggagagaggc gcgcggtga aaggcgcatt gatgcagcct gcggcggcct 50
cggagcgcgg cggagccaga cgctgaccac gttcctctcc tcggtctcct 100
ccgcctccag ctccgcgctg cccggcagcc gggagccatg cgaccccagg 150
gccccgccgc ctccccgcag cggctccgcg gcctcctgct gctcctgctg 200
ctgcagctgc ccgcgccgtc gagcgcctct gagatcccca aggggaagca 250
aaaggcgcag ctccggcaga gggaggtggt ggacctgtat aatggaatgt 300
gcttacaagg gccagcagga gtgcctggtc gagacgggag ccctggggcc 350
aatgttattc cgggtacacc tgggatccca ggtcgggatg gattcaaagg 400
agaaaagggg gaatgtctga gggaaagctt tgaggagtcc tggacaccca 450
actacaagca gtgttcatgg agttcattga attatggcat agatcttggg 500
aaaattgcgg agtgtacatt tacaaagatg cgttcaaata gtgctctaag 550
agttttgttc agtggctcac ttcggctaaa atgcagaaat gcatgctgtc 600
agcgttggta tttcacattc aatggagctg aatgttcagg acctcttccc 650

attgaagcta taatttattt ggaccaagga agccctgaaa tgaattcaac 700 aattaatatt catcgcactt cttctgtgga aggactttgt gaaggaattg 750 gtgctggatt agtggatgtt gctatctggg ttggcacttg ttcagattac 800 ccaaaaggag atgcttctac tggatggaat tcagtttctc gcatcattat 850 tgaaggaacta ccaaaataaa tgctttaatt ttcatttgct acctcttttt 900 ttattatgcc ttggaatggt tcacttaaat gacattttaa ataagtttat 950 gtatacatct gaatgaaaag caaagctaaa tatgtttaca gaccaaagtg 1000 tgatttcaca ctgttttaa atctagcatt attcattttg cttcaatcaa 1050 aagtggttc aatattttt ttagttggtt agaatactt cttcatagtc 1100 acattctcc aacctataat ttggaatatt gttgtggtct tttgttttt 1150 ctcttagtat agcatttta aaaaaatata aaagctacca atctttgtac 1200 aatttgtaaa tgttaagaat ttttttata tctgttaaat aaaaattatt 1250 tccaaca 1257

<210> 431

<211> 243

<212> PRT

<213> Homo Sapien

<400> 431

Met Arg Pro Gln Gly Pro Ala Ala Ser Pro Gln Arg Leu Arg Gly
1 5 10 15

Leu Leu Leu Leu Leu Gln Leu Pro Ala Pro Ser Ser Ala 20 25 30

Ser Glu Ile Pro Lys Gly Lys Gln Lys Ala Gln Leu Arg Gln Arg
35 40 45

Glu Val Val Asp Leu Tyr Asn Gly Met Cys Leu Gln Gly Pro Ala 50 55 60

Gly Val Pro Gly Arg Asp Gly Ser Pro Gly Ala Asn Val Ile Pro 65 70 75

Gly Thr Pro Gly Ile Pro Gly Arg Asp Gly Phe Lys Gly Glu Lys 80 85 90

Gly Glu Cys Leu Arg Glu Ser Phe Glu Glu Ser Trp Thr Pro Asn

Tyr Lys Gln Cys Ser Trp Ser Ser Leu Asn Tyr Gly Ile Asp Leu 110 115 120

Gly Lys Ile Ala Glu Cys Thr Phe Thr Lys Met Arg Ser Asn Ser 125 130 135

```
Ala Leu Arg Val Leu Phe Ser Gly Ser Leu Arg Leu Lys Cys Arg
 Asn Ala Cys Cys Gln Arg Trp Tyr Phe Thr Phe Asn Gly Ala Glu
 Cys Ser Gly Pro Leu Pro Ile Glu Ala Ile Ile Tyr Leu Asp Gln
 Gly Ser Pro Glu Met Asn Ser Thr Ile Asn Ile His Arg Thr Ser
 Ser Val Glu Gly Leu Cys Glu Gly Ile Gly Ala Gly Leu Val Asp
 Val Ala Ile Trp Val Gly Thr Cys Ser Asp Tyr Pro Lys Gly Asp
 Ala Ser Thr Gly Trp Asn Ser Val Ser Arg Ile Ile Glu Glu
                                     235
 Leu Pro Lys
<210> 432
<211> 18
<212> DNA
<213> Artificial Sequence
<220>
<223> Artificial Sequence
<400> 432
 aggacttgcc ctcaggaa 18
<210> 433
<211> 21
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 433
 cgcaggacag ttgtgaaaat a 21
<210> 434
<211> 21
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 434
atgacgctcg tccaaggcca c 21
<210> 435
```

```
<211> 19
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 435
 cccacctgta ccaccatgt 19
<210> 436
<211> 24
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 436
 actccaggca ccatctgttc tccc 24
<210> 437
<211> 19
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 437
 aagggctggc attcaagtc 19
<210> 438
<211> 19
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 438
 tgacctggca aaggaagaa 19
<210> 439
<211> 21
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 439
cagccaccct ccagtccaag g 21
<210> 440
<211> 19
<212> DNA
<213> Artificial Sequence
```

```
<220>
<223> Synthetic oligonucleotide probe
<400> 440
 gggtcgtgtt ttggagaga 19
<210> 441
<211> 20
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 441
 ctggccctca gagcaccaat 20
<210> 442
<211> 25
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 442
 tcctccatca cttcccctag ctcca 25
<210> 443
<211> 24
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 443
 ctggcaggag ttaaagttcc aaga 24
<210> 444
<211> 18
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 444
aaaggacacc gggatgtg 18
<210> 445
<211> 26
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
```

```
<400> 445
 agcgtacact ctctccaggc aaccag 26
<210> 446
<211> 22
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 446
 caattctgga tgaggtggta ga 22
<210> 447
<211> 20
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 447
caggactgag cgcttgttta 20
<210> 448
<211> 21
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 448
caaagcgcca agtaccggac c 21
<210> 449
<211> 18
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 449
ccagacetea gecaggaa 18
<210> 450
<211> 18
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 450
ccctagctga ccccttca 18
```

```
<210> 451
<211> 23
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 451
 tctgacaagc agttttctga atc 23
<210> 452
<211> 26
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 452
 ctctcccct cccttttcct ttgttt 26
<210> 453
<211> 18
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 453
 ctctggtgcc cacagtga 18
<210> 454
<211> 21
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 454
 ccatgcctgc tcagccaaga a 21
<210> 455
<211> 23
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 455
caggaaatct ggaaacctac agt 23
<210> 456
<211> 20
<212> DNA
```

```
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 456
 ccttgaaaag gacccagttt 20
<210> 457
<211> 22
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 457
 atgagtcgca cctgctgttc cc 22
<210> 458
<211> 18
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 458
 tagcagctgc ccttggta 18
<210> 459
<211> 22
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 459
aacagcaggt gcgactcatc ta 22
<210> 460
<211> 23
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 460
tgctaggcga cgacacccag acc 23
<210> 461
<211> 18
<212> DNA
<213> Artificial Sequence
<220>
```

```
<223> Synthetic oligonucleotide probe
<400> 461
 tggacacgtg gcagtgga 18
<210> 462
<211> 19
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 462
 tcatggtctc gtcccattc 19
<210> 463
<211> 27
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 463
 caccatttgt ttctctgtct ccccatc 27
<210> 464
<211> 18
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 464
ccggcatcct tggagtag 18
<210> 465
<211> 20
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 465
 tccccattag cacaggagta 20
<210> 466
<211> 23
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 466
```

```
aggetettge etgteetget get 23
<210> 467
<211> 18
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 467
gcccagagtc ccacttgt 18
<210> 468
<211> 19
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 468
actgctccgc ctactacga 19
<210> 469
<211> 20
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 469
aggcatcctc gccgtcctca 20
<210> 470
<211> 19
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 470
aaggccaagg tgagtccat 19
<210> 471
<211> 20
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 471
cgagtgtgtg cgaaacctaa 20
<210> 472
```

```
<211> 24
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 472
tcagggtcta catcagcctc ctgc 24
<210> 473
<211> 19
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 473
aaggccaagg tgagtccat 19
<210> 474
<211> 20
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 474
cctactgagg agccctatgc 20
<210> 475
<211> 22
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 475
 tccaggtgga ccccacttca gg 22
<210> 476
<211> 24
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 476
gggaggctta taggcccaat ctgg 24
<210> 477
<211> 50
<212> DNA
<213> Artificial Sequence
```

<220>
<223> Synthetic oligonucleotide probe
<400> 477
ggcttcagca gcacgtgtga agtcgaagtc gcagtcacag atatcaatga 50